
United States
COURT OF APPEALS
for the Ninth Circuit

STATES STEAMSHIP COMPANY, a corporation, *Appellant,*
v.

UNITED STATES OF AMERICA, ATLANTIC MUTUAL IN-
SURANCE COMPANY, PACIFIC NATIONAL FIRE IN-
SURANCE COMPANY and THE DOMINION OF CANADA,
Appellees.

ATLANTIC MUTUAL INSURANCE COMPANY, *Appellant,*
v.

STATES STEAMSHIP COMPANY, a corporation, UNITED
STATES OF AMERICA and THE DOMINION OF CANADA,
Appellees.

PACIFIC NATIONAL FIRE INSURANCE COMPANY,
v. *Appellant,*

STATES STEAMSHIP COMPANY, UNITED STATES OF
AMERICA and THE DOMINION OF CANADA, *Appellees.*
UNITED STATES OF AMERICA, *Appellant,*
v.

STATES STEAMSHIP COMPANY, ATLANTIC MUTUAL
INSURANCE COMPANY, PACIFIC NATIONAL FIRE IN-
SURANCE COMPANY and THE DOMINION OF CANADA,
Appellees.
THE DOMINION OF CANADA, *Appellant,*
v.

STATES STEAMSHIP COMPANY, ATLANTIC MUTUAL
INSURANCE COMPANY, PACIFIC NATIONAL FIRE IN-
SURANCE COMPANY and THE UNITED STATES OF
AMERICA, *Appellees.*

BRIEF OF APPELLANT-PETITIONER, STATES STEAMSHIP COMPANY,
ON APPEAL FROM INTERLOCUTORY DECREE
ENTERED FEBRUARY 16, 1956

*Appeal from the United States District Court for the
District of Oregon.*

WOOD, MATTHIESSEN, WOOD & TATUM,
ERSKINE WOOD,
1310 Yeon Building,
Portland, Oregon;

BOGLE, BOGLE & GATES,
STANLEY B. LONG,
Central Building,
Seattle, Washington,
Proctors for Petitioner-Appellant.

FILED

JAN - 5 1957

PAUL P. O'BRIEN, CLERK

INDEX

	Page
ARGUMENT ON THE WHOLE CASE	8
Concise Statement of the Case	2
Law Applicable	8
Burdens of Proof	9
Summary	8
Specifications of Error	6
Specifications Nos. I and V: Court Erred in Holding that Storm Was Not a Peril of the Sea, etc. Finding No. III	21
Authorities on Perils of the Sea	52
Conclusion on the Storm—Perils of the Sea	59
Evidence of the Captains:	
CYGNET III	25
KAMIKAWA MARU	23
KOTOH MARU	32
SHOOTING STAR	22
STONETOWN	27
Evidence from the Scientific and Official Records	33
Table Showing Prevailing Wave Heights at Significant Times and Events	49
Evidence from the PENNSYLVANIA herself	47
The PENNSYLVANIA's Radiograms Chronologically Set Forth	11
Same in Narrative Form	18
Trial Court's Findings—Discussion	56
Specification of Error Nos. I, II and V—The Court Erred in Holding PENNSYLVANIA Unseaworthy	61
Argument	62

INDEX (Cont.)

	Page
Evidence of the PENNSYLVANIA's Seaworthiness	67
(Her Construction, Alterations, Re- pairs, Inspections, Surveys, and Record of Performance.)	
Error in Trial Court's Findings IV and V: Argument	62
"Contributory Factors of Unsea- worthiness"	99
Deck Cargo Adrift and Taking Tarpaulins Off Forward Hatches	109
"Label" Cargo Cribs	111
Security of the Hatches	119
Failure of Steering Gear	102
No. 2 Hatch Open and Full of Water	122
Sea Water Entering Engineroom	100
Taking Water in No. 1 Hold	108
"Crack Sensitiveness" "By Reason of" the Former 22 Foot Crack in the Deck	82
Mr. D. P. Brown's Testimony	97
Mr. Hechtman's Testimony	89
Captain Nordstrom's Testimony	99
Mr. Williams' Testimony	84
Summary	61
Specifications of Error III and V	123
Court Erred in Holding Petitioner Had Not Exercised Due Diligence and in Not Giving Effect to the Holding in His Memorandum Opinion That Any De- fects in the PENNSYLVANIA Were Latent and Not Apparent.	
Authorities	133

INDEX (Cont.)

	Page
Due Diligence	129
Latent Defects	124
CONCLUSION	137
JURISDICTION	2

APPENDIX

Findings of Facts and Conclusions of Law	2
Judge Ling's Opinion	1
List of Exhibits	13
Pertinent Parts of Statutes	8

TABLE OF CASES AND STATUTES CITED

Page

STATUTES

28 U.S.C.A. §§ 1291 and 1292	2
28 U.S.C.A. § 1333	2
46 U.S.C.A. § 391 (Inspection of Vessel by Coast Guard)	75, 76
46 U.S.C.A. § 861 (Merchant Marine Act 1920)	139
46 U.S.C.A. § 881 (American Bureau of Shipping)	76
46 U.S.C.A. § 891 (Merchant Marine Act 1928)	139
46 U.S.C.A. § 1101 (Merchant Marine Act 1936)	139
46 U.S.C.A. §§ 1300-1315 (Carriage of Goods by Sea Act)	3
46 U.S.C.A. § 1304(1)	129
46 U.S.C.A. §§ 1303(1), 1304(1) and (2)	8, 9
46 U.S.C.A. § 1304(2)(a)	82
46 U.S.C.A. § 1304(2)(p)	124, 129
50 App. U.S.C.A. §§ 1735-1746 (Merchant Ship Sales Act of 1946)	68
Admiralty Rules 51 to 54	2
Canadian Water Carriage of Goods Act 1936, 1 Edw. VIII, c. 49, 1936 A.M.C. 1250-1258	3, 8, 9, 130

TEXTBOOKS

Knauth Ocean Bills of Lading	9
Robinson on Admiralty, 1939 ed.	10
Scrutton on Charter Parties, 16th ed.	10, 133
Wind Waves at Sea, H. O. Pub. No. 602 at p. 22	36, 50, 122

CASES

The AAKRE, 31 F. Supp. 8	10
The ARLINGTON, 1943 A.M.C. 388, 392 (Supreme Court of Canada)	65

TABLE OF CASES AND STATUTES CITED (Cont.)

Page

The CARROLL, 60 F. (2d) 985	65
Davison Chemical Co. v. Eastern Transp. Co., 30 F. (2d) 862	32, 55
Duche v. T. & J. Brocklebank, 40 F. (2d) 418	54
The EMILIA, 1936 A.M.C. 22, 22-24, 13 F. Supp. 7 8-9	134
The FLORIDIAN, 83 F. (2d) at page 950	104
The FLORIDIAN, 83 F. (2d) at page 951	134
General Foods Corporation v. The TROUBADOR, 98 F. Supp. 207, 210	134, 135, 137
The GIULIA, 218 F. 744	53
Hecht, et al. v. New Zealand Ins. Co., 121 F. (2d) 442	32, 54, 55
The IRISTO, 43 F. Supp. 29	10
Isbrandtsen v. Federal Ins. Co., 113 F. Supp. 357, af. 205 F. (2d) 679, cert. den. 74 U. S. Sup. Ct. 106	11
Keystone Transports, Ltd. v. Dominion Steel, etc. (1942), 4 D.L.R. 513 (Supreme Court of Can- ada)	56
Kurth Malting Company v. Colonial Steamships, Ltd. (1953), Ex. C.R. 194 (Exchequer Court of Canada)	10
McAllister v. U. S., 348 U.S. 19, 99 L. Ed. 20, 1945 A.M.C. 1999	60, 138
The NEWPORT NEWS, 199 F. 968	32, 53
The NEWPORT NEWS, 199 F. 968 at p. 970	104
The PACIFIC FIR, 57 F. (2d) 965, 967	119
PERMANENTE SILVERBOW - COLORADO, 1956 A.M.C. 695	60, 138

TABLE OF CASES AND STATUTES CITED (Cont.)

Page

Philippine Sugar C. Agency v. Kokusai Kisan Ka- bushiki Kaisha, 106 F. (2d) 32	53, 54
The ROSALIA, 264 F. 285.....	53
The SANDFIELD, 92 F. 663.	58, 59, 65
The TITANIA, 19 F. 101.....	59, 65
The TOLEDO, 30 F. Supp. 93, af. 122 F. (2d) 255, cert. den. 314 U.S. 689.....	9
The VALE ROYAL, 51 F. Supp. 412.....	10
The WARREN ADAMS, 74 F. 413	52
The WILDWOOD, 133 F. (2d) 765.....	56
The ZAREMBO, 44 F. Supp. 915, 919, af. 136 F. (2d) 320, cert. den. 320 U.S. 804 . . .	76, 133, 134

United States
COURT OF APPEALS
for the Ninth Circuit

STATES STEAMSHIP COMPANY, a corporation, *Appellant,*
v.

UNITED STATES OF AMERICA, ATLANTIC MUTUAL INSURANCE COMPANY, PACIFIC NATIONAL FIRE INSURANCE COMPANY and THE DOMINION OF CANADA, *Appellees.*

ATLANTIC MUTUAL INSURANCE COMPANY, *Appellant,*
v.

STATES STEAMSHIP COMPANY, a corporation, UNITED STATES OF AMERICA and THE DOMINION OF CANADA, *Appellees.*

PACIFIC NATIONAL FIRE INSURANCE COMPANY, *Appellant,*
v.

STATES STEAMSHIP COMPANY, UNITED STATES OF AMERICA and THE DOMINION OF CANADA, *Appellees.*

UNITED STATES OF AMERICA, *Appellant,*
v.

STATES STEAMSHIP COMPANY, ATLANTIC MUTUAL INSURANCE COMPANY, PACIFIC NATIONAL FIRE INSURANCE COMPANY and THE DOMINION OF CANADA, *Appellees.*

THE DOMINION OF CANADA, *Appellant,*
v.

STATES STEAMSHIP COMPANY, ATLANTIC MUTUAL INSURANCE COMPANY, PACIFIC NATIONAL FIRE INSURANCE COMPANY and THE UNITED STATES OF AMERICA, *Appellees.*

BRIEF OF APPELLANT-PETITIONER, STATES STEAMSHIP COMPANY,
ON APPEAL FROM INTERLOCUTORY DECREE
ENTERED FEBRUARY 16, 1956

*Appeal from the United States District Court for the
District of Oregon.*

JURISDICTION

Appellant, States Steamship Company, filed its petition in the U. S. District Court for Oregon, in admiralty, for exoneration from or limitation of liability growing out of the loss of its ship, the PENNSYLVANIA. The Cargo filed claims and answers. The jurisdiction of the District Court is based on Title 28 USCA § 1333 and Admiralty Rules 51 to 54 inclusive. Jurisdiction to review the District Court's decree, is conferred on this Court by Title 28 USCA § 1291, and § 1292(3). The petition is found on Pages 3-9 of the Transcript; the claims and answers on Pages 11-67.

CONCISE STATEMENT OF THE CASE

Petitioner-appellant's ship, the PENNSYLVANIA, sailed from Seattle for Yokohama, January 5th, 1952, with a full cargo, and was lost in a violent storm in the North Pacific January 9th, with all hands and all cargo. (Since there are numerous appellants in this proceeding, this appellant will hereafter be referred to as the petitioner).

The petitioner filed its petition in the United States District Court for Oregon, for exoneration from or limitation of liability.

Death claims were filed on behalf of the families of the lost seamen, and cargo-claims by the owners or underwriters of the lost cargo.

The Death Claims were all settled out of Court.

The trial proceeded on the issues between the petitioner and the cargo claimants. These were the United States of America, the Dominion of Canada, the Atlantic Mutual Fire Insurance Company, and the Pacific National Fire Insurance Company, the last two as subrogated underwriters.

The petitioner claimed that the ship was lost by a peril of the sea, a violent storm; that she was seaworthy; that petitioner had used due diligence to make her seaworthy; that if she had any defects, which was denied, they were latent, and claimed the benefits of the Carriage of Goods by Sea Act, 1936 (Title 46, USCA §§ 1300-1315), and its identical Canadian Act (I Edw. VIII, c. 49; 1936 A.M.C. Pages 1250-1258); that there was no liability, but if there was, it was without the privity or knowledge of petitioner; and that petitioner should have a decree of exoneration, or in any event of limitation.

The cargo claimants put these claims at issue.

The trial was held before the Honorable Dave W. Ling, as a visiting judge, in the Oregon Court, beginning July 13th, 1954, and ended August 10th, 1954. Briefs were submitted and, later on, oral argument was had at Phoenix, February 11th, 1955.

On November 17th, 1955, Judge Ling handed down his written opinion (Tr. 71-72; Appendix p. 1). In it, while holding the storm not to be a peril of the sea, and the vessel unseaworthy, he said that "what latent defects in hull or equipment were responsible for the disaster cannot be determined with certainty . . ." and

"Upon an examination of the record I find that any defects in the vessel which caused her to sink were not apparent. Those charged with her inspection used the care of reasonable and prudent persons and the unseaworthiness of the vessel was without privity or knowledge of the owner of the vessel."

Since this reference to the defects as "latent", and the express holding that they were not "apparent", and that "those charged with her inspection used the care of reasonable and prudent persons" were unqualified, and were equivalent to due diligence, entitling petitioner to exoneration both under the Carriage of Goods by Sea Act, 1936, and the Canadian Act, petitioner submitted findings and a decree to that effect. Cargo-claimants submitted counter-findings.

A brief hearing was held at Phoenix February 10th, 1956, and Judge Ling accepted the Findings submitted by the United States, verbatim, with one short interpolation. These findings, in brief, held that the storm in which the vessel sank was not a peril of the sea; that a crack in the vessel's side, permitting sea-water to enter the engineroom, a failure or breakdown of the ship's steering system, taking water in No. 1 hold, deck cargo coming adrift, taking tarpaulins off the forward hatches, and No. 2 hatch being open and full of water were "factors of unseaworthiness, culminating from the unseaworthy condition of the vessel at the inception of her voyage", and that she was unseaworthy at the inception of her voyage without, however, stating what that unseaworthiness was; that the petitioner had not exercised due diligence to make the ship seaworthy, but was with-

out privity or knowledge of the unseaworthiness and was entitled to limit liability (Tr. 72-78; Appendix p. 2).

An interlocutory decree based on these findings was entered on February 16th, 1956 (Tr. 78-79).

This decree denies exoneration, holds petitioner liable up to the pending freight, \$82,256.25, with interest, and grants limitation.

Petitioner, accepting the grant of limitation in its favor, appeals only from that part of the decree denying exoneration. This brief is devoted only to that.

On cargo-claimants' appeal from the limitation granted by the decree, the petitioner is the appellee, and as such will await those appellants' briefs on that issue, and will then, if necessary, file its brief as appellee.

The questions involved in petitioner's appeal are these:

1. Was the PENNSYLVANIA lost by a peril of the sea? Entitling petitioner to exoneration.

2. Was the PENNSYLVANIA seaworthy? Entitling petitioner to exoneration. Or, as claimed by the cargo-claimants, unseaworthy?

3. If not seaworthy, was due diligence used to make her seaworthy? Entitling petitioner to exoneration.

4. If there were any defects in her, causing the loss, were they latent and not discoverable by due diligence? Entitling petitioner to exoneration.

5. Was Judge Ling's Interlocutory Decree, holding petitioner liable up to the pending freight, and denying exoneration, in that respect, erroneous,

These questions arise generally on the whole record. Specifically, and more in detail, they are raised in this Court by petitioner's Statement of Points on Appeal Tr. 2939-2940, and the following:

SPECIFICATIONS OF ERROR

I.

The court below erred in its finding No. III that the storm was not of such magnitude as to constitute a peril of the sea; was of a kind reasonably to have been expected; that all other vessels withstood it; and that the sole and proximate cause of the vessel's loss was her own unseaworthiness. These findings are contrary to the great weight of evidence, and are clearly erroneous (Tr. 2939).

II.

The court below erred in its findings No. IV and V holding, in substance, that the factors therein mentioned were "factors of unseaworthiness"; that they culminated from the unseaworthy condition of the vessel at the inception of her voyage (without stating what that unseaworthy condition was) which prevented her from meeting the expected and to be anticipated weather conditions, and proximately caused her loss. These findings are against the great weight of the evidence and are clearly erroneous. Collateral, or incidental to the main error, the reference to "the crack sensitiveness of the vessel to extreme cold weather by reason of a former 22-foot crack in her deck occurring on her previous voyage", if it be accepted as a finding (though not express), is erroneous because (1) unsupported by any

competent evidence that the vessel was "crack-sensitive", and (2) certainly not crack-sensitive "by reason of" (i.e. caused by) the previous crack. It may be added that the finding that the vessel was "completely unable to steer by any method" overstates the radiograms (Tr. 2939).

III.

The court below erred in its finding No. VI and conclusion No. II that the evidence was insufficient to show that, and the petitioner did not, use due diligence to make the vessel seaworthy, entitling petitioner to exoneration. This finding and conclusion are contrary to the great weight of the evidence, and are clearly erroneous (Tr. 2939).

IV.

The court below erred in its conclusion No. IV that the cargo interests should recover up to the amount of pending freight.

V.

The court below erred in not finding and concluding:

1. That the vessel was lost by a peril of the sea;
2. That she was seaworthy at the inception of her voyage;
3. That due diligence was exercised by petitioner before and at the beginning of her voyage to make her seaworthy;
4. That if there were any defects in her, (which we do not admit) they were latent, and not discoverable by due diligence.

And in not entering a decree of exoneration, based on one or all of such findings and conclusions (Tr. 2939-40).

ARGUMENT ON THE WHOLE CASE

FIRST—THE LAW APPLICABLE

Summary:

The cargo loaded at Vancouver, B. C. was carried under bills of lading incorporating the Canadian Water Carriage of Goods Act, 1936 (Exhs. 130, 131); and the cargo loaded at Seattle was carried under a contract incorporating the United States Carriage of Goods by Sea Act, 1936, familiarly known as COGSA (Ex. 132B). These acts are practically identical. The rights and immunities of the parties are governed by them.

1. Under them, there is no warranty of seaworthiness. It is abolished.
2. In that respect, the carrier is only bound to use due diligence to make the ship seaworthy at the beginning of the voyage.
3. The carrier is not liable for damage or loss arising or resulting from:
 - (a) Unseaworthiness unless caused by want of due diligence to make the ship seaworthy;
 - (b) Act, neglect or default of the master in navigation or management of the ship;
 - (c) Perils, dangers and accidents of the sea;
 - (d) Act of God;
 - (e) Latent defects not discoverable by due diligence.

46 U.S.C.A. §§ 1303(1), 1304(1) and (2).

Burdens of proof:

The cargo claimants having proved the loss, the burden is on the petitioner to bring itself within one of the exemptions, i.e., perils of the sea, act of God, act of the master, latent defects, etc. The petitioner having done so, the burden shifts to the cargo to prove petitioner's negligence, or unseaworthiness causing the loss. If cargo proves unseaworthiness, petitioner is nevertheless exonerated if it proves due diligence. Applying these statutes and rules to the facts of this case, petitioner should be exonerated.

Amplifying the foregoing summary:

First, there is no warranty of seaworthiness. This was accomplished directly in the Canadian Act by the following language:

"3. There shall not be implied in any contract for the carriage of goods by water to which the Rules apply any absolute undertaking by the carrier of the goods to provide a seaworthy ship."

and by §§ 3(1) and 4(1) of the United States Act, limiting the responsibility of the carrier with respect to seaworthiness to the exercise of due diligence before and at the beginning of the voyage. 46 USCA §§ 1303(1), 1304(1); Knauth, *Ocean Bills of Lading*, 192 (4th Ed. 1953). *The Toledo*, 30 F. Supp. 93, aff'd, 122 Fed. (2d) 255. Cert. Den. 314 U.S. 689.

The rights and immunities of the carrier and shipper have been sufficiently stated in the summary above. The statutes themselves (the pertinent parts) are printed in the appendix.

The burdens of proof, as stated in the summary, are well understood. They are succinctly stated in *Kurth Malting Company v. Colonial Steamships, Ltd.* (1953), Ex. C.R. 194 (Exchequer Court of Canada), as follows:

“The defendant carrier having admitted the receipt of the cargo in good order and condition, and the loss suffered during the voyage, the burden of proving its defense that the loss was suffered by perils, dangers and accidents of the sea falls upon the defendant carrier if it is to escape responsibility for the loss or damage. It was admitted by counsel for all parties that if the defendant satisfied this onus then the onus would be upon the plaintiff to show unseaworthiness of the vessel, to which the defendant's answer would be that it had exercised due diligence to make the ship seaworthy.”

See also, *The Iristo*, 43 F. Supp. 29, at page 37, and *The Aakre*, 31 F. Supp. 8, at page 11. *Scrutton on Charterparties*, 16th Ed., p. 482.

It is *not* a condition precedent to claiming the exemptions of the acts to prove (as is the case under the Harter Act), due diligence to make the ship seaworthy:

“The 1936 statute does not condition these exemptions on due diligence to make the ship seaworthy. It is only liability for loss due to unseaworthiness that is so conditioned. This last is made clear by the wording of the prior section. Section 4(2) of the 1936 Act does not say as the Harter Act does, that ‘if the owner . . . shall exercise due diligence to make the vessel . . . seaworthy’ he shall be given immunity.” *Robinson on Admiralty*, 1939 Ed., pp. 505-506.

“Under the Canadian Act due diligence is *not* made a proviso of any of the exceptions, but is to be considered separately therefrom.” *The Aakre*, *supra*, at page 11. *The Vale Royal* 51 F. Supp. 412,

424; *Isbrandtsen v. Federal Insurance Co.*, 113 F. Supp. 357-359; *aff'd*. 205 F. 2, 679; *Cert. Den.* 74 U.S. Sup. Ct. 106.

WHAT HAPPENED TO THE SHIP—THE SHIP'S RADIOGRAMS

It will facilitate a better understanding of the case if we first set forth just what happened to the PENNSYLVANIA, for this affects, to a greater or less degree, all of the Specifications of Error which we shall later discuss.

What happened to the PENNSYLVANIA is known only from her radiograms. We shall shortly list them in chronological order. But before doing so give this word of explanation as aid to the Court.

In the radiograms the following symbols indicate ships or stations:

KTOG indicates the CYGNET III

KWTC indicates the PENNSYLVANIA

NAN indicates the weather station NAN, which was the weather ship WINONA at sea

NMJ indicates the Coast Guard Station at Ketchikan (Pt. Higgins) Alaska

NMW indicates Seattle and Grays Harbor Coast Guard Station

KLB indicates the Mackay Radio Station at Kent, near Seattle

V O L E indicates the Commandant, 13th Coast Guard District

OX indicates "to operations" and means that the message is addressed to all "operations" of the Coast Guard in this area

The letter X in a message is a symbol for a period and the letters BT are a symbol for a break or a period.

Radio traffic is all carried on in Greenwich Meridian Time, the designation for which is GMT, or Z. Both mean the same thing.

In transposing GM Time to Pacific Standard Time, or vice versa, or GM Time to ship's time in the longitudes where the PENNSYLVANIA or other ships were, these approximate additions or subtractions must be made:

To transpose GM Time to Pacific Standard Time, deduct 8 hours, and conversely, add 8 hours for the reverse transposition.

To transpose GM Time to ship's time, in the longitudes where the PENNSYLVANIA and the other ships were, deduct 9 hours, and conversely, add 9 hours for the reverse transposition.

To transpose Pacific Standard Time to ship's time, deduct 1 hour, and conversely, add 1 hour for the reverse transposition.

The time and position beginning a message does not mean the time it was sent; it indicates the ship's position at that time. Unless something in the message itself clearly indicates when it was sent, the time of sending can be determined by the time at which it was received.

In quoting the messages below, we have occasionally interpolated in parenthesis the meaning of symbols therein.

We now proceed to the messages themselves. They are found in Exhibits, 97, 108 and 127, the latter being a whole group of messages introduced as one exhibit:

1. The PENNSYLVANIA was, like many others, a weather-reporting ship, and the first message, at 1435

GMT, was a report from her weather-reporting officer to the United States Weather Bureau. It was:

"WIND 292° VEL 45-50 MPH SEA HT MOUNTAINOUS" (Exh. 97).

2. The next message, sent at 1443 GMT, was from the PENNSYLVANIA to the Coast Guard. It read:

"1400 GMT SS PENNSYLVANIA POSN 51.09 NORTH 141.31 WEST CRACK DOWN SIDE OF VESSEL (from) DECK HALF WAY DOWN ENGINE ROOM PORT SIDE WIND WNW 9 VERY HIGH WESTERLY SEA VESSELS IN VICINITY PSL (please) QRX (stand by) and QSL acknowledge receipt) DE (from) KWCT (PENNSYLVANIA) AR (end of transmission)" (Exh. 127).

3. The next message was from the PENNSYLVANIA to States Steamship Company via Mackay Radio, San Francisco, thence by Western Union to Portland where it was received at 7:11 A.M. (1511 GMT) and reached owners' office at 8:20 A.M. It read:

"1400 GMT POSITION 51.09 NORTH 141.31 WEST CRACK DOWN SIDE OF VESSEL IN ENGINE ROOM BETWEEN FRAMES 93 AND 94 IN WELD STARTING IN SHEER STRAKE AND RUNNING DOWN ABOUT 14 FEET WILL TURN AROUND AS SOON AS POSSIBLE AND PROCEED SEATTLE" (Exh. 108).

4. States Steamship Company answered this message as follows:

"MASTER PENNSYLVANIA. USE TURNBUCKLES TO HOLD CRACK IN COMPRESSION STARTING FROM DECK HEAD. ADVISABLE TO DRILL END OF CRACK WITH AIR DRILL STOP WHAT ARE WEATHER CONDITIONS KEEP US INFORMED. STATES LINE." (Exh. 127).

But, Mackay Radio advised that the message was never received by the ship.

5. The fourth message from the ship appears to have been a broadcast intercepted by the Coast Guard in Seattle at 0729 P.S.T. (1529 GMT). It read:

"1400 GMT SS PENNSYLVANIA POSN 51.09 NORTH 141.31 WEST HULL CRACKED 14 FEET DOWN PORT SIDE INTO ENGINE-ROOM VESSEL TAKING WATER BUT CAN HANDLE WITH PUMPS IF SITUATION DOES NOT BECOME WORSE. VESSELS IN VICINITY PSE (please) KEEP CLOSE WATCH BT (break) DE (from) KWCT (PENNSYLVANIA)" (Exh. 127).

6. The next was a message from the Coast Guard at Seattle at 0827 P.S.T. (1627 GMT) to the master of the PENNSYLVANIA as follows:

"ADVISE INTENTIONS CMA COURSE AND SPEED" (Exh. 127).

7. To this the PENNSYLVANIA replied, at 1007 P.S.T. (1807 GMT) as follows:

"091730Z GMT 51.09 N 141,31 W ENDEAVORING TO STEER COURSE OF 110 DEGREES CAN'T STEER AT PRESENT TAKING WATER NR ONE HOLD AND ENGINE-ROOM" (Exh. 127).

8. The next message is from the Coast Guard radio station at Westport, Washington, to "operations" and was received by the Seattle Coast Guard at 1035 P.S.T. It is thus not a direct message from the ship but recites a message received from the ship. It reads as follows:

"TO OX RECEIVED FROM SS PENNSYLVANIA ON 8280 KCS X AT 1750 GMT 51.11 NORTH 141.17 WEST BT (break) 09 1824" (Exh. 127).

9. The next message was from the ship direct to States Line (Petitioner) via Mackay Radio KLB, Kent, Washington, a suburb of Seattle. It was received at 11:30 A.M., P.S.T. (1930 GMT) and reads as follows:

"1905 GMT TAKING WATER NUMBER 1 HOLD DOWN BY HEAD CANNOT STEER OR GET FORWARD TO SEE WHERE TROUBLE IS PUMPS HOLDING IN ENGINE ROOM. IF WE CANNOT FIX STEERING GEAR WILL REQUIRE ASSISTANCE. VERY HIGH SEAS. CANNOT GET ON DECK AT PRESENT. DECK LOAD ADRIFT TAKING TARPAULINS OFF FORWARD HATCHES. CANNOT GET ON DECK TO SECURE. MASTER." (Exh. 127).

10. The next message was received at the Coast Guard Station at Pt. Higgins at Ketchikan, Alaska, and was at 1930 Z transmitted to the Coast Guard at Seattle. It records the first S.O.S. sent from the ship at 1920, and reads as follows:

"FOLLOWING RECD ON 500 KCS QUOTE SOS SOS SOS DE (from) KWCT (PENNSYLVANIA) KWCT KWCT BT (break) SS PENNSYLVANIA AT 1920 LAT 51.09 N. 141.13 W RPT (repeat) 51.09 N 141. 13 W TAKING WATER IN ENGINE ROOM AND NR ONE HOLD DOWN BY HEAD REQUIRE AID AR (end of transmission) DE (from) KWTC (PENNSYLVANIA) HW (how about it?) UNQUOTE" (Exh. 127).

11. At 2115 Z the Coast Guard at Seattle received the following message from NAN (weather ship "Winona"). It is not a message direct from the PENNSYLVANIA but is a summary of various messages exchanged between the "Cygnet III" and the PENNSYLVANIA and the Coast Guard Station at Ketchikan and relayed by

NAN. That summary records the second S.O.S. as having been sent by the ship at 2015 Z and reads as follows:

"FOLLOWING RECEIVED ON 500 KCS AT 1956 Z QUOTE KWCT (to PENNSYLVANIA) DE (from) KTOG (CYGNET III) POSN 49.10 N 142.35 W HAVE HIGH SEAS. DID YOU GET ASSISTANCE YET AND WHAT YOU NEED. (PENNSYLVANIA replied) NOT YET BUT HOLD ON PUMPING ALL OIL FM (Probably "From"—message unfinished)—WEATHER STILL PRETTY—UNQUOTE"

"AT 2015Z SUGAR OBOE SUGAR (SOS) DE (from) KWCT BT PENNSYLVANIA 1920 GMT PSN 51.09 N 141.13 W TAKING WATER IN ENGINE ROOM AND NR ONE HOLD TARPS FWD HATCHES STILL HOLDING USING HAND STEERING NEED ASSISTANCE AR DE KWCT (end of transmission from PENNSYLVANIA)—KWCT DE NMJ (to PENNSYLVANIA from KETCHIKAN) RR (received your) SUGAR OBOE SUGAR AR (end of transmission)"

"AT 2021Z QUOTE FM SS CYGNET IS OUR ASSISTANCE NEEDED PLEASE GIVE PLENTY TIME DUE TO SEAS WE ESTIMATE 24 HOURS FROM YOUR POSN PLEASE ADVISE BT MASTER"

"AT 2024 UNKNOWN STATION SENDING VVV DE NMC QRT (this means that an unknown station was testing (VVV) and was told by C.G. at San Francisco (NMC) to get off the air)—BT K" (Exh. 127).

12. The next message was a message from the Coast Guard Station at Pt. Higgins, Ketchikan, Alaska, to "OX" (operations) relaying a message from the PENNSYLVANIA. The time the PENNSYLVANIA sent it was 10005 Z (i.e. 005 Z on the 10th, as indicated in the

repeat of the same message in No. 16 following. This was the message:

"TO OX FOLLOWING FROM PT HIGGINS / NMJ X (period) SS PENNSYLVANIA / KWCT QUOTE HAS GOT STEERING GEAR FIXED BUT CAN'T STEER AS RUDDER TOO FAR OUT OF WATER NR 2 HATCH OPEN AND FULL OF WATER X (period) LOOKS LIKE ONLY HOPE IS FOR WEATHER TO MODERATE BT (break)" (Exh. 127).

13. At 1631 (4:31 P.M., P.S.T., 0031 GMT on January 10th) the United States Coast Guard Station at Westport relayed the following message to operations:

"TO OX FROM PT HIGGINS / NMJ X SS PENNSYLVANIA / KWCT STATES THEY ARE GOING TO ABANDON SHIP BT" (Exh. 127).

This message from the PENNSYLVANIA itself was sent at 100022 Z (0022 Z on the 10th) as indicated in the repeat of the same message in No. 16 following.

14. At 1644, the Coast Guard Station at Westport relayed to operations this message:

"TO OX FROM PT HIGGINS / NMJ X SS PENNSYLVANIA / KWCT STATES HAS 45 MEN ABOARD AND 4 LIFE BOATS BT" (Exh. 127).

This message from the PENNSYLVANIA was sent at 100027 Z (0027 Z on the 10th) as indicated in No. 16 following.

No. 16 also includes a message (not in the list as a separate exhibit) "Leaving Now" sent at 100030 Z.

15. Later the Coast Guard Station at Westport broadcast to operations:

"TO OX FROM CYGNET III / KTOG AT 0310Z NMW DE KTOG BT KWCT LEFT SHIP AT 0030 GMT BT" (Exh. 127).

16. The foregoing series of final messages is summarized and repeated by the U. S. Coast Guard Station at Pt. Higgins, which also relayed them to the Coast Guard at the Westport Station and to the Coast Guard vessel "Klamath", in the following message:

"FOLLOWING RECD FROM KWCT on 500 KCS at 10005Z QUOTE NMJ (Pt. Higgins) DE KWCT BT GOT STEERING GEAR FIXED BUT CAN'T STEER AS RUDDER TOO FAR OUT OF WATER NR 2 HATCH OPEN AND FULL OF WATER LOOKS LIKE ONLY HOPE IS FOR WEATHER TO MODERATE UNQUOTE FOLLOWING RECD FROM KWCT ON 500 KCS AT 100022Z QUOTE SOS NMJ DE KWCT LOOKS LIKE WE HAVE TO ABANDON SHIP UNQUOTE FOLLOWING RECD FROM KWCT ON 500 KCS AT 100027Z QUOTE 45 PERSONS ABOARD 4 BOATS UNQUOTE FOLLOWING RECD FROM KWCT ON 500 KCS AT 100030 Z QUOTE LEAVING NOW UNQUOTE X ALL FOREGOING INFO PASSED TO CG RADSTA WESTPORT WASH AND UNSCGC KLAMATH BY THIS STATION X KWCT UNHEARD SINCE 100030Z" (Exh. 127).

Bearing in mind that the PENNSYLVANIA, on the Composite Great Circle Course, would be steering about 290 degrees and had already been in the storm for many hours, the foregoing radiograms may be condensed into the following narrative. All times in this narrative will be stated in ships' time, by deducting 9 hours from the G.M.T.

On the morning of January 9th about 5:35 A.M. the PENNSYLVANIA, in Lat, 51.09 North Long. 141.31 West. bucking a 292 degree (W.N.W) head wind of 45-50 miles perhour and mountainous westerly seas, suffered a crack in her port side in the way of the engineroom, extending from the sheer strake 14 feet down the vessel's side; although some water was entering the engineroom, the pumps were able to handle it. In this situation the master determined to turn around as soon as possible and return to Seattle.

By 9:27 A.M. he had turned around and was endeavoring to steer a course of 110 degrees (the course back to Seattle), but was having some unidentified trouble with his steering and was taking water in the No. 1 hold and the engineroom.

At 10.05 A.M. he reported that the vessel was still taking water in the No. 1 hold, was down by the head, and that he couldn't steer or get forward to see where the trouble was, but the pumps were still holding in the engineroom; that if he couldn't fix the steering gear, he would require assistance. The seas were continuing very high; the deck load was adrift, taking the tarpaulins off the forward hatches, and the crew couldn't get on deck to secure it or the hatches.

10:20 A.M. he sent out his first SOS and said the ship was taking water in the engineroom and No. 1 hold, was down by the head and he would require aid. The "Cygnet III" having asked whether he had assistance yet and what he required, he replied he had not received assistance yet and was pumping oil. The message

was unfinished. Perhaps he meant from the forward tanks.

At 11:15 A.M. he again sent out an SOS and repeated that the ship was taking water in the engineroom and No. 1 hold, but added, this time, that the tarpaulins on the forward hatches were still holding and that he was using hand steering but would need assistance.

At 3:05 P.M. he radioed that he had got the steering gear fixed but couldn't steer because the rudder was too far out of water (by reason of the vessel being so far down by the head) and that the No. 2 hatch was open and full of water and it looked as if the only hope was for the weather to moderate.

At 3.22 P.M. he radioed that he was going to abandon ship; and 5 minutes later that he had 45 men aboard and 4 lifeboats.

At 3:30 P.M. he abandoned ship, and neither he nor any of the crew was ever heard of again.

**Specifications Nos. I and V: The Court Erred in Holding That the Storm Was Not a Peril of the Sea—
"Perils, Dangers and Accidents of the Sea"
(COGSA)—and That It Was Not the Cause
of the Sinking of the Ship. Finding No. III.**

Argument

SUMMARY

The storm which sank the PENNSYLVANIA was one of the worst, if not the worst ever experienced in that area, as evidenced by the testimony of the captains who survived it, of a meteorologist and an eminent scientific oceanographer; and by the *official* weather records of the Canadian and United States Governments. That it was a peril of the sea, as understood in both the United States and Canadian Acts, and as defined by many admiralty courts, will be demonstrated. The Court erred in not so holding and in not holding that it, and not the ship's unseaworthiness, caused her loss.

The PENNSYLVANIA really encountered two storms. The first was January 7th-8th. A brief lull intervened; and then came a second, greater storm, January 9th-10th. These are known in the testimony as Storms Nos. 1 and 2. Storm No. 1 was itself a peril of the sea, and the PENNSYLVANIA's surviving it, is itself proof of her seaworthiness. Storm No. 2 sank her.

First, let us hear from the captains of those ships which survived. As actual participants, eye witnesses, they certainly should be listened to. All but one, Captain

Brown, testified by deposition. This Court, therefore, is in just as good a position to judge their testimony, as was the trial court.

The SHOOTING STAR

At the S.O.S. Captain Reid, of the SHOOTING STAR, was 200 miles WSW of the PENNSYLVANIA (Tr. 1775). His log book, introduced with his deposition (Ex. 135), shows repeated entries of taking heavy green water over the bow and sides and rolling and pitching heavily. The entries are too numerous to quote. A sample is the entry on January 9th on the 0:00 to 4:00 watch.

“Very high WNW seas and swells. Vessel rolling and pitching heavily. Green seas over bow and star-board side.”

And on the 4:00 to 8:00 watch:

“Very rough seas and height NWly swell. Shipping green seas over bow and main deck fore and aft and boat deck.”

Certainly shipping *green seas* on the *boat deck* of a large ship like the SHOOTING STAR (aC-2) indicates a storm of the greatest intensity. This was the very time the PENNSYLVANIA was in trouble. There are many more like entries. During this same period from noon of January 8th to noon of January 9th, for 16 hours, they had “constant waves of 50 feet, and occasionally we would get a 70- to 75-foot roller in amongst the lot of those waves” (Tr. 1766). He testified that the waves recorded by his mates were from 50 to 59 feet; that they averaged 50 feet and were “mountainous” (Tr. 1793-

1794); and when asked about their steepness, said, "It is like riding in a Crosley having a van roll down on top of you" (Tr. 1794). He stated again that there were occasional rollers of 70 to 75 feet (Tr. 1768); and that occasionally they would "take one up on the bridge which would come into the wheel house" (Tr. 1770). Although he had been in typhoons and had passed through the center of one "the waves were not as high nor as consistent as we had in this storm" (Tr. 1828-1829). His ship suffered heavy damage as shown by the Sasebo Shipyard repair bill (Tr. 1783). It included, among other items a heavy longitudinal steel deck I-beam, a main member, like a bridge girder, in the forepeak distorted and split, deck plates on the fo'c'sle head set in, "Ten fo'c'sle head deck beam knees split, welds and loosened rivets—2 in the same condition port side"; a deck plate cracked in the way of No. 3 hatch; damage to lifeboats; damage to the bridge deck 45 feet above the water, and other items (Tr. 1783-1788).

We hope the Court will inspect his log (attached to Ex. 135) and read his whole deposition. It is summed up in this statement: "I have never seen a storm of that violence in all the time I have been at sea" (Tr. 1778).

The KAMIKAWA MARU

At the S.O.S. Captain Maeda, of the Japanese ship KAMIKAWA MARU, was 100 miles SW of the PENNSYLVANIA (Tr. 527, Ex. 47). He had been 35 years at sea, on all oceans. Yet in all that time, and on all those oceans (including of course the dangerous typhoon

China Seas) he had seen only 2 or 3 such storms (Tr. 524, 535, Ex. 47).

He continued that the waves were 15 meters high (equals about 49 feet); rolling and steep and dangerous for a deep draft ship (Tr. 531); that he was light but would have been fearful for his ship had he been loaded and heading into the storm instead of running with it (Tr. 536); that he received the S.O.S. from the PENNSYLVANIA at 1925 GMT, equivalent to 9:52 A.M., ship's time (Tr. 526), but that it was not until 2230 GMT, *three hours and five minutes later, that he was able to change his course to go toward the PENNSYLVANIA*; that to go to her he would have had to steer 20° , but because of the severity of the storm he could not bring his ship around to steer that course; that the best course he could make was 60° , and the drift caused by the storm set him off an additional 30° , so he was only making a course of 90° (in other words— 70° off the desired course) (Tr. 527-530). His log book attached to his deposition (Ex. 47) shows winds of force 8 and 9 with very high seas and ship laboring heavily. On January 8th, the entry for 2000 is:

“Sea tremendous, ship laboring heavily and shipping seas on aft deck at times.”

And for 2400 is: “Sea tremendous, ship laboring heavily on NWly heavy swell.”

At 0800 (on the 9th): “Sea tremendous, ship laboring violently and shipping sea on aft deck at times.”

At 1925 GMT: “Received SOS, PENNSYLVANIA”, then gives respective positions:

At 1000 (1933 Z): "A/Co (alter course to 60° for salvaging SS PENNSYLVANIA."

At 1200: "Sea tremendous with NWly very heavy swell."
"Always trying to A/Co (alter course) to distress position unsuccessful."

At 1600: "Sea tremendous, ship laboring heavily with NWly heavy swell."

At 1900: "Trying A/Co (alter course) to distress position unsuccessful."

At 2000: "Sea tremendous, ship laboring violently on NWly abnormal swell."

At 2230: "A/Co (alter course) to 320°."

At 2400: "Sea tremendous with NWly swells, ship pitch-heavily and shipping sprays on deck all times."

We urge the Court to read this man's log and his testimony. If he could not even turn his ship *toward* the PENNSYLVANIA for three hours after the S.O.S. though life was at stake, what greater proof could there be of the violence and danger of the seas?

The CYGNET III

At the S.O.S. Captain Bennis B. Brown of the CYGNET III was 120 miles south by west from the PENNSYLVANIA (Tr. 1651). The pages from his log book (Ex. 125) beginning on January 7th show continuous heavy weather, culminating on the 8th and 9th in a storm of unprecedented ferocity. For example, on January 8th, 4:00 A.M.: wind force 11, barometer falling rapidly (Tr. 1629). At 8:00 A.M.: wind force 10 and 11 (Tr. 1629). At 12:00 noon on the 8th: "Vessel laboring at reduced RPM's. Shipping water occasionally main deck and over hatches (Tr. 1630). At 1211: "Mountainous

WNW seas and heavy WNW swell, frequent heavy seas over the bow and sides" (Tr. 1631). "Mountainous" is the "maximum of our descriptive ability" (Tr. 1632); at 1330: "Cover on No. 2 boat ripped off by mountainous seas" (Tr. 1632); Bare steerage way was being maintained (Tr. 1632-1633); wind force 11 and 12 (Tr. 1634). At 1550: "Cover on No. 1 boat ripped and starboard running light ripped out by huge sea, Bare steerage way maintained" (Tr. 1633). The decks were continuously awash, making it impossible to take soundings (Tr. 1636). (See deck log, Ex. 125). On the 9th the storm still continued at its worst. His log continues to show winds of force 10 and 11 (Tr. 1639-1640), and "shipping heavy water on all decks." That means "the foredeck, the afterdeck and the boat deck." "It means that all those decks are awash with heavy seas" (Tr. 1640-1641). "These seas not only were huge and mountainous, but they were coming with such speed and driving force, and instead of being lengthened out they were sharp steep. The vessel just had no chance to rise over the top of them" (Tr. 1656). He was on the bridge constantly for three days (Tr. 1643). At 1617 on the 9th the entry is "stop engines; huge sea struck port side amidships; miscellaneous damage per statement attached" (Tr. 1643). We refer the Court to his vivid description of this:

"All of a sudden, this mountainous sea—where it come from I don't know. It just was right off of the beam directly on the beam now. I saw it out of the corner of my eye. I looked up, and it was just like a huge mountain, just like a huge mountain towering above, you know, and the top 10 feet of it, I would assume 10 feet, was just beginning to break, breaking white, you know, like your big

breakers down on the beach; and just as I saw it I reached over and stopped the engines as you will notice here, 'Stopped engines,' and just as I did the whole thing came cascading down on top of the ship. It was so terrific that it just evidently—I was certain that the entire amidship house was broken loose from the ship. I have never in all my life felt anything like that; and as soon as the water started running away leaving the ship, why, I put way on the ship again with the engines and started looking at the damage, and there is a notation down here about the damage." (Tr. 1644-1645).

The notation referred to is in the log book, Exhibit 125, and reads as follows:

"1617, damage caused by a huge sea shipped on port side amidships severely damaged No. 2 and 4 lifeboats; carried away handrail on boat deck aft, also port running light; broke floodlight and various main deck to boat deck stanchions and several cracks along bulwarks amidships." (Tr. 1608-9)

That was all he could see right then. He later discovered other heavier damages, detailed on pages 1646-1650 of the Transcript.

He summed up his characterization of the storm by saying that he had sailed all over the world; had been in three other storms where ships went down, and in one of them, two ships went down, but—

"I can say without any reservation that this storm was the worst I have ever witnessed." (Tr. 1657).

The STONETOWN

At the S.O.S. Captain McMunagle, of the Canadian weather ship STONETOWN, was hove to, at Weather Station Peter (sometimes called Papa), 205 miles SW

of the PENNSYLVANIA (Tr. 1966). As an employee of the Dominion of Canada, a claimant here, he was a witness for claimants, and therefore adverse to petitioner. Yet even he, when referring to the entries in his log, "very high precipitous sea and swell" and "storm—very high, vicious seas and heavy swell—ship rolling and pitching heavily—shipping seas forward and midships", testified as follows:

"Q. Well, isn't that description of a storm of great intensity? A. Of a bad storm and a bad sea too.

"Q. Well, one of the worst you can encounter, isn't it? A. *That is as bad as you can get.*

"Q. Have you ever seen on this station—you've been there two years—have you ever seen a worse sea condition than that? A. *I have seen seas as bad as that; maybe not worse.*" (Tr. 2004-2005).

And again:

"Q. I am asking you point blank, captain—you have been on that station two years—have you ever seen a worse sea condition and a worse storm than as is described in this log of January 8? A. *I have seen as bad. I would not say I have seen worse. I have seen as bad.*" (Tr. 2005).

What more than this can any Court want, to establish "peril of the sea"? If a storm is "as bad as you can get", it *must* be a peril of the sea; otherwise, since no worse storms exist, there never could be such a peril.

The above entries are for January 8th, when the PENNSYLVANIA was still weathering the storm,—best proof of her seaworthiness. He testified that on January 9th the storm was continuing about as before (Tr. 2006) and that on this day (when the PENNSYLVANIA was

wrecked) the storm had reached its highest pitch (Tr. 2034).

As the length of a storm increases the strain on a ship, he was asked whether he had known any to last as long as this PENNSYLVANIA storm. He at first answered:

“A. Lasting pretty near as long. I would have to go in the other log books to check.” (Tr. 2006).

He later admitted that these other storms were not as long (Tr. 2029-2030, 2032).

He had been having very bad weather for several days. As early as January 6th. He had “strong gales”. “Strong Northwesterly gale and very high, steep seas”, which he described to be “a very bad sea” (Tr. 2007).

These conditions continued through the 9th when the PENNSYLVANIA was wrecked. Then his log entry is “whole gale—storm—very heavy, precipitous seas”. And his vessel was “hove to” (Tr. 2007).

He said that the storm was over a wide area, worse near the center (Tr. 2028); and that if the PENNSYLVANIA was nearer than the STONETOWN to the center her conditions would be worse (Tr. 2028-2029). The PENNSYLVANIA was nearer the center, as we shall show.

Captain McMunagle received the PENNSYLVANIA's S.O.S. at 1925 GMT (10:25 A.M. ship's time), realized that life was at stake and immediate assistance needed, yet did not start for the rescue until *three hours* later (Tr. 2008). The reason for the delay was that *the*

storm and seas made it too dangerous to turn the ship around. He listed the dangers of turning around as follows:

“A. If you are turning a vessel in a high sea and the sea is beam-on, for instance when you are on the point of your turn, she can strip herself of boats and everything else, if she shipped a big volume of water. That has been done time and again.

“Q. Well, stripping her boats wouldn’t be serious would it? A. That is only one of the things that can happen.

“Q. What else can happen to it? A. She might lose ventilators. Some of her openings might have been damaged—the water-tight doors, for instance.

“Q. Smashed in? A. Smashed in. All those things could have occurred.

“Q. You mean she might have been so badly damaged that she would have taken water and foundered? A. It could happen.” (Tr. 2009).

Even when he did turn around and started for the rescue he had to pour oil on the water to do so, the first time in 30 years (Tr. 2009-10). And, because of the weather he did not hold a course for the PENNSYLVANIA’s position but went more to the southerly (Tr. 1969, 2017). In short, he was somewhat like Captain Maeda; he could not bring his ship onto a true course for the PENNSYLVANIA.

Although the STONETOWN was a frigate built for the North Atlantic patrol (a notoriously bad place), and although she was additionally strengthened for her duties at weather station Peter in the Pacific (Tr. 1943, 1999-2000), she suffered such material damage in the PENNSYLVANIA Storms that as soon as search was abandoned, she asked for, and received, permission to

return to her base for repairs, ahead of her scheduled return (Tr. 2021-22). Her log entry for January 15th is, "Returning to base due to heavy weather damage" (Tr. 2021).

Although the survey report of her damage was repeatedly demanded by petitioner during the trial, it was never produced. The serious nature, however, of that damage is indicated by Captain McMunagle's testimony on pages 2011-13 of the transcript. Among other things, his main deck developed a 41-inch crack; the steel breakwater was badly damaged, pulling and fracturing and tearing the angle irons from the deck. There were several cracks in the "galley flat" and other small cracks. One deck plate was buckled and the engineroom casing was fractured.

We urge the Court to read particularly his deposition from pages 2000 to 2011 of the Transcript.

In view of the foregoing testimony, his testimony, where he was flagrantly led by his counsel into saying that there was nothing unusual about the storm, must certainly be disregarded. That question and answer were as follows:

"Q. Was there anything unusual or unanticipated about the weather conditions that existed in the month of January 1952 in the vicinity of weather station Papa? A. No." (Tr. 1993).

Testimony like that is of little merit, when weighed against what he said on cross-examination as detailed above.

Even if true, however, it would make no difference.

A storm of *this severity* does not cease to be a peril of the sea because not unusual, or not unanticipated.

"True, it was no more than was to be expected in those waters at that time; (Philippine etc. v. Kokusai, etc., 106 F. (2d) 32, 34); they (perils of the sea) include occasional visitations of the violence of nature, like great storms, even though they are no more than should be expected." Hecht et al v. New Zealand Ins. Co., 121 F. (2d) 442.

To the same effect: The Newport News, 199 F. 968; Davison Chemical Co. v. Eastern Transp. Co., 30 F. (2d) 862, and other authorities to be cited infra.

Can anyone deny that the PENNSYLVANIA's was a "great storm"? Even if "not unusual", it was nevertheless so great as to be a peril of the sea. But, as a matter of fact, it was most unusual. It was unprecedented, as we shall show.

The KOTO MARU

The only other ship captain who gave his experience of the storm was Captain Mori of the Japanese KOTO MARU. He was an adverse witness called by the cargo claimants. At the S.O.S. he was about East by South 232 miles away heading for Vancouver (Tr. 1533, 1500, Ex. 123). He testified through an interpreter that on the evening of the 8th, he had winds of Force 10 and very high seas (Tr. 1509); that it was a "*big storm*", though sometimes in winter "we expect the same kind of storm then" (Tr. 1512); that he did not respond to the S.O.S. because it would have been too difficult and dangerous to turn his ship around (Tr. 1532-33), and that the severity of this storm was "all the same" (Tr. 1520) as another

later one noted in his log book which showed wind Force 11 and seas "phenomenal" (Tr. 1515-16).

We submit that this adverse witness with his "big storm" and waves "phenominal", confirms, rather than refutes, the general testimony of the other captains.

THE SCIENTIFIC AND OFFICIAL RECORD EVIDENCE OF THE STORM

We now turn to the scientific and official record evidence.

It is first necessary to explain the source and accuracy of these records. They have been kept by the U. S. Government continuously since 1922, except for the war years, and the storms have been diagrammed on synoptic charts. Mr. Danielson, one of petitioner's witnesses, examined about 3,000 of them.

The United States and the Canadian Governments, by mutual arrangement, maintained various weather reporting stations, ships, in the North Pacific. One of these is Ocean Station Peter ("Papa"), manned by the frigate STONETOWN, and alternately by her relieving ships, the ST. CATHARINES and ST. STEPHEN. The ship's position is at Lat. 50 N. Long. 145 W., centered on a designated "grid", 210 square miles in area (Tr. 1946-47). Her sole function is to report the weather, and she has 4 trained meteorologists aboard for that purpose. Every 3 hours she reports weather conditions to Vancouver (Tr. 1946) for distribution to the various Government agencies, such as the Canadian Department of Transport at Toronto, and our own National Weather Records Center at Ashville, N. C.

During the winter months Ocean Station Peter has been continuously manned, except the year 1947, since 1946. The STONETOWN, as has already been observed, was the ship on that station when the PENNSYLVANIA was wrecked, and her official records are therefore most important.

These records thus kept are the only official records we have of wave heights at Ocean Station Peter.

In interpreting these official records of wave heights, it must be borne in mind that the observer records only the "significant heights". These are the average of the highest one-third of the waves. Thus a wave-record of 40 feet means only that the highest third of the waves averaged 40 feet but does not record individual waves of 50, 60, 70 feet or more. (Tr. 1438, Ex. 110, Page 6, first column.)

With this explanation, we turn to the two weather experts called by petitioner. These were Mr. Danielson, a meteorologist, and Dr. Rattray, an oceanographer. Both were well qualified. Mr. Danielson, after study at a Weather Observing School in Illinois, had forecast weather for the U. S. Army, working with Dr. Austin, one of the weather forecasters for the Normandy Invasion; had forecast for the continental Airlines, vitally dependent, of course, on his forecasts for the safety of their flights. At the time of the trial he was completing his Master's Degree in Meteorology, and was a Teaching Fellow at the University of Washington, and was also forecasting the weather for a Seattle Broadcasting Station. Storms, and especially storms in the North Pacific, are his special study (Tr. 1235-38, 1243).

Dr. Rattray is one of the outstanding men in the Science of Oceanography. In addition to his accomplishments in this special field, he has had personal experience at sea as an officer of the U. S. Navy and later during oceanographic research voyages in the North Pacific. He is an active member of the Council on Wave Research, The Engineering Foundation, University of California (Tr. 1425-1427, 1466).

The testimony of these men is long and it is unnecessary to go into it in detail. They explained that wind force alone is no measure of a storm at sea. *Waves* are the thing. To create high and dangerous waves, the wind must (1) blow at a *high velocity*, (2) for a *long time*, (3) in *one direction*, and (4) over a long "fetch", i.e., expanse of ocean over which the wind has been blowing continuously in one direction and thus builds up the waves (Tr. 1293-94, 1441-42). They explained the nature of storms and high, steep or "precipitous" breaking seas,—so dangerous to ships.

They also explained the science of "hindcasting" storms. This is the reverse of forecasting. By taking the official records gathered from the various weather reporting stations, and the official synoptic charts, they can hindcast a storm of some prior date and tell what seas it built up and their characteristics (Tr. 1441-42, 1552). Thus, by taking the official records of the STONETOWN and the other Government records, they were able to "hindcast" the storm exactly as it was at the PENNSYLVANIA's position 200 miles away (Tr. 1449-1452).

Similarly, by hindcasting from the official records, they refuted Captains Cuthbert's and Mori's testimony

that the PENNSYLVANIA storm was "usual", and showed that it exceeded every storm for 30 years past (Tr. 1300-01, 1469, 1484). But rather than their detailed testimony about the nature of storms and what creates them, it is their conclusions which this Court will be interested in.

Those conclusions, based upon a complete study of the official weather records, including those of Ocean Station Peter, were:—

1. That Storm No. 1, which the PENNSYLVANIA weathered, was itself an unusual storm, with waves of 20 feet or higher for 21 hours ("The vast majority of waves . . . are considerably lower than 12 to 15 feet and waves much higher than 20 to 25 feet are not usual anywhere"). Wind Waves at Sea H.O. Pub. No. 602 (Ex. 129, at page 22).
2. That in Storm No. 2, which sank the ship, the waves were 20 feet or higher for 51 hours; 30 feet or higher for 27 hours, and 45 feet or higher for 18 hours (Tr. 1297-98; Exh. 100).
3. These observations were made at Ocean Station Peter (the STONETOWN). But Storm No. 2 produced even higher waves at the PENNSYLVANIA's position (Tr. 1452).
4. That the waves were steep, and therefore dangerous, and were at their worst on the 9th, during the very hours the PENNSYLVANIA was in trouble (Tr. 1458-1464).

5. To be more specific:

From 0400 G.M.T. January 9th to 0030 G.M.T. January 10th—when the ship radioed “Leaving now”, a period of $20\frac{1}{2}$ hours, the waves continuously exceeded 40 feet, reaching a maximum “significant height” of $50\frac{1}{2}$ feet, with occasional rollers, as testified by the ships’ captains, of 70 or 75 feet (Tr. 1455-56, 1565-66, 1766, 1768; Table, page 49 this brief).

6. That the storm was, as Mr. Danielson said,—
“almost a classic example of the unfortunate combination of a number of required ingredients which are necessary to produce an extremely high sea over a long period of time, and, therefore, I would say that it was, probably produced an unprecedented storm from that aspect” (Tr. 1300).

7. That a search of the weather records for this area, from 1952 back to 1922, a period of 30 years (except for the war years when no records were kept) showed only *one* storm, back in 1931, that even approached this PENNSYLVANIA storm in its ability to produce high waves (Tr. 1301-02), and even it did not have waves quite as high or lasting as long (Tr. 1484).

The sum of these conclusions, all based, remember, on the official records, is that the storm which sank the PENNSYLVANIA was unprecedented and the worst on record.

And none of these records has been refuted.

Before leaving Danielson and Rattray, we point out, to aid the Court, that:

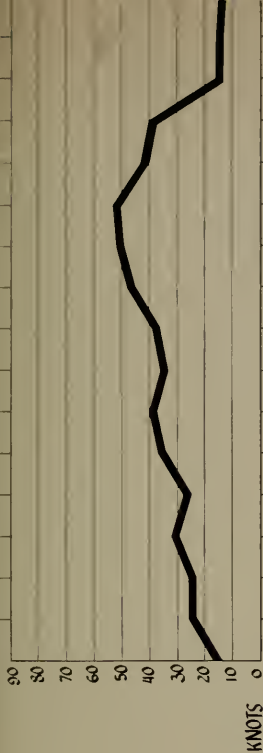
Exh. 98 is a graph of Storm No. 1 at the STONE-TOWN's position and based on her official records.

Exh. 100 is a similar graph of Storm No. 2.

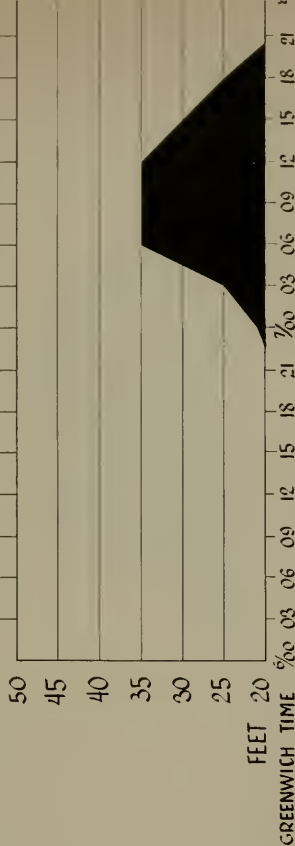
Exh. 111 is a graph of the 2 storms at the PENNSYLVANIA's position, as hindcast by Dr. Rattray from the official records.

For the Court's convenience, we here reproduce these.

WIND SPEED



WAVES 20 FEET AND HIGHER

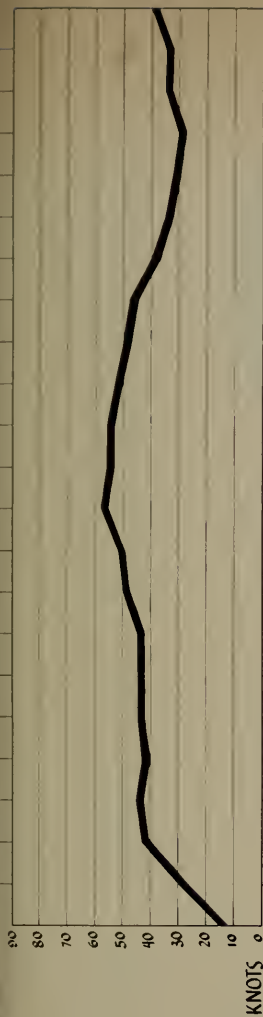


OBSERVATIONS RECORDED 'PETER'

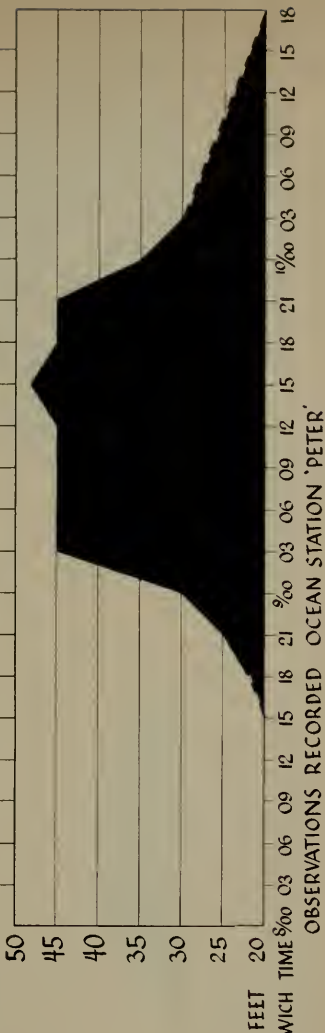
Pennsylvania Storm

Jan. 6-8, 1952

WIND SPEED



WAVES 20 FEET AND HIGHER



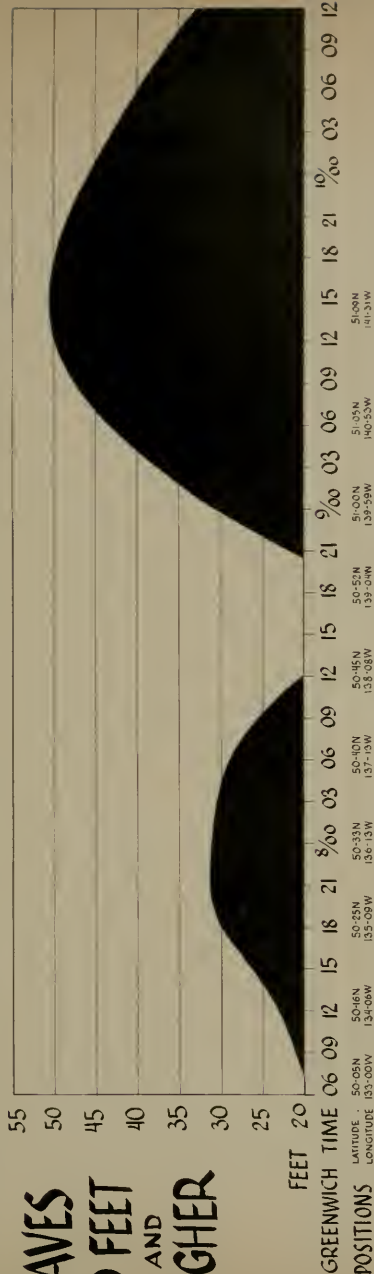
GREENWICH TIME
OBSERVATIONS RECORDED OCEAN STATION 'PETER'

Pennsylvania Storm

Jan. 8-10, 1952

HINDCASTED WAVES AT SS. PENNSYLVANIA

WAVES
20 FEET
AND
HIGHER



As already remarked, the testimony of Captains Cuthbert and Mori that the PENNSYLVANIA storm was "typical" and no worse than other storms which they cited, was thus refuted by the actual analysis of the official records of those storms by Mr. Danielson and Dr. Rattray.

(The testimony of Captain Ulstad is not to the contrary. This retired old sea-captain had a hard time keeping his mind on the subject, and kept reminiscing about Cape Horn and the Philippines. The substance of his testimony was that there are sometimes bad storms in the Pacific, which we know, but that waves above 12 feet are unusual, and that "the average, somewhere—in a good storm about 30 or 35 feet" (Tr. 2233-34). In the light of the contrary evidence, his testimony is negligible.)

Before leaving this discussion of the scientific and official evidence of the storm, we refer briefly to two matters which command attention.

The first is this:

Exh. 92 is the *official record* at Ocean Station Peter of the highest waves observed, including all waves over 30½ feet during the winter months of November, December, January and February. No record was kept in 1946, 1947 nor 1948. The record covers the period from November, 1949 through February, 1953,—the last date before the trial of this case began. This record shows that only 9 readings made at Ocean Station Peter recorded waves of 45 feet or higher, and that of those 9 readings, 7 occurred on the day the PENNSYLVANIA was lost, the readings being on a 3-hour basis and extending for 18 consecu-

tive hours (Ex. 92). And remember that these are only the "significant" wave heights, i.e., the average of the highest one-third.

The second is this:

When high seas are accompanied by cold temperatures, the possibility of steel cracking is increased by the cold (Tr. 211). In this connection, an examination of Exh. 91, which is the temperature record at Ocean Station Peter since 1946, shows that on January 9th, 1952, the air temperature was 32° F. or below, for a period of 15 consecutive hours, which are concurrent with the 18 consecutive hours of wave heights 45 feet and over at the STONETOWN. *At no other date* when Ocean Station Peter recorded 32° F. temperature or below were waves of 30½ feet, or greater, encountered (Ex. 92). When continuous waves of 45 feet and over are combined with these below freezing temperatures, we have a storm truly unprecedented in the North Pacific.

Now against this mass of scientific and official evidence, what did the cargo claimants produce in opposition? Since the United States is the largest claimant here, they had at their disposal all of the official agencies of the U. S. Government, the U. S. Weather Bureau, the U. S. Coast Guard, the U. S. Air Force, the U. S. Army, the U. S. Navy and the U. S. Navy Hydrographic Office,—the Weather Bureau and the Navy Hydrographic Office being particularly versed in these matters. Notwithstanding this advantage, the claimants produced nothing from any of these sources.

The only evidence they produced was the testimony

of Mr. Kinzebach. Mr. Kinzebach had to admit that he was not an oceanographer,—“I don’t feel as though I am an authority on anything to do with waves or oceanography” (Tr. 2194); that he knew nothing whatever of waves,—“I know nothing about wave heights” (Tr. 2203), and his testimony was strictly limited to the number of times that the winds in the North Pacific had exceeded Beaufort Force 10, without regard to direction, duration or fetch (Tr. 2239-40, 2244). He stated frankly that his meteorological examination of the weather records for the purpose of the trial was “merely an objective study of wind velocities” (Tr. 2248).

Mr. Ferguson properly remarked that “this witness has disqualified himself from testifying as to the waves, and so on” (Tr. 2244). And Mr. Gearin conceded “the witness is not qualified” on wave heights (Tr. 2242).

Thus we find the testimony of Mr. Danielson and Dr. Rattray relating to the height, steepness and duration of the storm waves encountered by the PENNSYLVANIA to be uncontradicted and unchallenged in any respect.

We have now discussed the evidence of the ship captains who were actually in the storm and the scientific and official evidence.

There is one more source of information,—brief though it is. Unfortunately there is no surviving witness from the PENNSYLVANIA. But we do have her radiograms. They fully confirm the other evidence of the violence and intensity of the storm. They describe the seas

as "mountainous" and "very high". The master states his intention to turn around "as soon as possible",—indicating the seas were too bad to attempt it yet. No one could "get forward to see where trouble is", and "cannot get on deck to secure" the deck load or the hatches,—obviously because of boarding seas sweeping the decks. Seas which tore loose a well-secured deckload and opened well-secured hatches with their steel pontoon covers, and damaged the steering gear.

Finally, there is the message near the end,—“only hope is for *weather* to moderate”.

And what of the fact that of 45 men and the Captain—experienced seamen all—with 4 lifeboats, not one escaped? Does that not show the violence of the storm? Captain Lovejoy, the Puget Sound pilot and the last man alive to see the ship, said they were an alert and experienced crew—"it was a pleasure to be on a ship that was run like that" (Tr. 741). They had four good boats. How does it happen that not one survived? Is not the answer obvious? The extreme violence of the seas.

Certainly a very severe storm.

In the light of all this evidence, the mere sinking of this ship, pronounced by every responsible man who ever examined her to have been seaworthy, and loss of all her crew are themselves eloquent evidence of the severity of the storm.

As an aid to the Court, we have prepared a table correlating the wave heights during the PENNSYLVANIA's distress, with the times and events indicated by her radiograms.

PENNSYLVANIA STORM NO. 2

le—Showing the Prevailing Wave Heights and Duration of Waves 40 Feet and Over at Significant Times and Events

	Events	Prevailing* Wave Height	Duration Waves Over 40 Feet	
1952				
00	Storm intensity increasing—35 foot			
	waves increase to 40 feet	40 feet	00 hrs.	00 min.
00	Waves increase to 45 feet	45 feet	3 hrs.	00 min.
00	Waves increase to 50 feet	50 feet	7 hrs.	45 min.
05	Message to U. S. Weather Bureau reporting "MOUNTAINOUS" seas	50 feet	10 hrs.	35 min.
03	Message reporting crack port side engine-room—giving 1400 position—51° 09" N.			
	141° 31" W.	50 feet	10 hrs.	43 min.
00	Waves increase to 50½ feet	50½ ft.	11 hrs.	00 min.
07	PENNSYLVANIA had turned around steering 110°—taking water No. 1 hold—giving position at 1730	50 feet	14 hrs.	07 min.
05	New position at 1750—51°11" N. 141°17" W. —indicating progress toward Seattle	50 feet	14 hrs.	35 min.
05	Message reporting water No. 1 hold—cannot steer or locate trouble fwd—pumps holding in engine room—unless steering gear fixed will require assistance—very high seas—cannot get on deck at present to secure deck load	47 feet	15 hrs.	05 min.
00	First SOS message—giving position 51°09" N. 141°13" W.	47 feet	15 hrs.	30 min.
05	Second SOS message—Master reporting, "TARPS FWD HATCHES STILL HOLDING USING HAND STEERING NEED ASSISTANCE"	46 feet	16 hrs.	15 min.
1, 1952				
05	Steering gear fixed—rudder out of water—Master reported, "ONLY HOPE IS FOR WEATHER TO MODERATE"	45 feet	20 hrs.	04 min.
02	Master reported, "LOOKS LIKE WE HAVE TO ABANDON SHIP"	45 feet	20 hrs.	22 min.
07	Master reported, "45 PERSONS ABOARD AND 4 BOATS"	45 feet	20 hrs.	27 min.
00	Master reported, "LEAVING NOW"	45 feet	20 hrs.	30 min.

ave heights shown are "significant wave heights" being average of highest third prevailing waves (Tr. 1438). Occasional waves of 75 feet and over (Tr. 1766, 644-45).

he foregoing Table compiled from: Exhibits 90, 97, 100, 111, 127; and Tr. 1452-

At the trial, counsel attempted to deprecate the radiograms by pointing out that they mentioned a wind no higher than Force 9. This overlooks two things,—

First, that estimates of wind on the Beaufort Scale are only approximations. What to one mate may be 9,

to another may be 10. In this very case, the PENNSYLVANIA's weather-reporting officer, reported wind of 45-50 miles per hour, which is a little higher than Force 9. And winds of even 9 (41-47 miles per hour) are not to be minimized. Also that the winds which built up the seas may have been previously 10 or 11, as reported by some of the other ships, but may have temporarily lessened, leaving the seas to continue. Also, Captain Plover, deeply concerned for the safety of his ship and intent on maneuvering her, was not spending much time nicely gauging the exact force of the wind.

Second, and most important: It is not the *wind* that wrecks a ship. It is the *waves*. At the PENNSYLVANIA they were "mountainous" and "very high".

The following quotations from "Wind Waves at Sea, Breakers and Surf", Navy Department Hydrographic Office Publication No. 602 (Exh. 129) are pertinent:

"In short, the old rule still holds and always will, that it is the waves of a storm, not its winds, that the mariner has to fear; also that a high and heavily breaking sea is a dangerous one, whenever and wherever it is encountered." (p. 46).

And further:

"Nautical periodicals contain repeated accounts of the damage done even to well-found ships, steam as well as sail, by the masses of water that may fall on board when such seas break; of decks swept clean of boats and houses, of bulwarks carried away, and of hatches stove in by the mere weight of water. Many a ship has been lost with all hands under such circumstances." (p. 51).

The ship captains in this case are of the same opinion.

Captain Maeda's log of the KAMIKAWA MARU, attached to his deposition, Ex. 47, for January 8th shows that in this very storm, while recording "sea tremendous", the wind was Force 9—(the same as the PENNSYLVANIA's), and on the 9th, while still recording "sea tremendous, ship laboring violently", etc., the Force was only 9 and 10—Conversely, he testified "even if the wind is strong, if the waves are small, then there is no danger" (Tr. 544).

Captain Reid said that in a typhoon "the winds were higher", but "the waves were not as high nor as consistent as we had in this particular storm" (Tr. 1829), and that "it is the seas that the wind builds up" and not the wind which damage the ship (Tr. 1839).

Captain McMunagle testified that the longer a ship has to labor in a heavy storm, the more danger to the ship (Tr. 2032).

We have remarked before that the PENNSYLVANIA was closer to the center of the storm than any other ship. This is evident from a reference to the synoptic charts of the storm for January 9, 1952.

If you plot the positions of the ships on any of the synoptic charts for January 9th, you will see that the PENNSYLVANIA was nearer the "eye" of the storm than any of them.

Take, for example, the chart for 1830 GMT on the 9th (identified by its stamp 091830 in the corner, in-

cluded in Exh. 95). This was close to the time of the first S.O.S.

At the first S.O.S., these were the ships' positions:

PENNSYLVANIA—Lat. 51.09 N, Long. 141.13 W
—Exh. 127.

SHOOTING STAR—200 miles WSW from PENNSYLVANIA—(Tr. 1775).

KAMIKAWA MARU — 100 miles SW of the PENNSYLVANIA—(Tr. 527).

STONETOWN—205 miles SWly of the PENNSYLVANIA—(Tr. 1966, 1968).

CYGNET III—Lat. 49.10 N, Long. 142.35 W—
(Position given in radiogram Exh. 127).

KOTOH MARU—232 miles S by E of PENNSYLVANIA—(Tr. 1533, 1506).

Plot these on a synoptic chart for January 9th, and it is apparent that the PENNSYLVANIA was further North, and nearer the center of the storm than any of them, and therefore, as Captain McMunagle said, in a more dangerous position (Tr. 2028-29).

AUTHORITIES—ON PERILS OF THE SEA

We do not believe that this Admiralty Court, with its experience, needs many authorities on perils of the sea, or, as the statute has it, "Perils, dangers and accidents of the sea" (COGSA). A few will suffice:—

"That term (perils of the sea) may be defined as denoting 'all marine casualties resulting from the violent action of the elements, as distinguished from their natural, silent influence upon the fabric of the vessel; casualties which may, and not consequences which must, occur.' " Judge Wallace in *The Warren Adams*, 74 Fed. 413 (2d Cir. 1896), at p. 415.

"Perils of the seas are understood to mean those perils which are peculiar to the sea, and which are of an extraordinary nature or arise from irresistible force overwhelming power, and which cannot be guarded against by the ordinary exertions of human skill and prudence." Judge Rogers in *The Giulia*, 218 Fed. 744 (2d Cir. 1914), at p. 746.

"But it is to be remembered that, in order to find peril of the sea, the losses sustained need not be extraordinary, in the sense of necessarily arising from uncommon causes. Rough seas are common incidents of a voyage, yet they are certainly sea perils. . . ." Judge Hough in the "*Newport News*", 199 F. 968, 971.

" . . . The peril which forms a good exception in a bill of lading means something so catastrophic as to triumph over those safeguards by which skillful and vigilant seamen usually bring ship and cargo to port in safety." Judge Hough in *The Rosalia*, 264 Fed. 285 (2d Cir. 1920), at p. 288.

Judge Learned Hand summarized the status of the law, and in so doing explained *The Rosalia*, as follows:

"The phrase, 'perils of the sea', has at times been treated as though its meaning were esoteric: Judge Hough's vivid language in *The Rosalia*, 2 Cir. 264 F. 285, 288, has perhaps given currency to the notion. That meant nothing more, however, than that the weather encountered must be too much for a well-found vessel to withstand. *Duche v. Brocklebank*, 2 Cir., 40 F. 2d 418. The standard of seaworthiness, like so many other legal standards, must always be uncertain, for the law cannot fix in advance those precautions in hull and gear which will be necessary to meet the manifold dangers of the sea. That Judge Hough meant no more than this in *The Rosalia*, *supra*, is shown by his reference to the definition in *The Warren Adams*, 2 Cir., 74 F. 413, 415, as the equivalent of what he said. That definition was as follows: 'That term may be

defined as denoting "all marine casualties resulting from the violent action of the elements, as distinguished from their natural, silent influence." ' It would be too much to hope that *The Rosalia*, supra, will not continue to be cited for more than this, but it would be gratifying if it were not." *Philippine Sugar C. Agency v. Kokusai Kisan Kabushiki Kaisha*, 106 F. (2d) 32 (2d Cir. 1939), at pp. 34-5.

Judge Chase, of the Second Circuit, also commented upon "Judge Hough's vivid language in *The Rosalia*" as follows:

"With this, we are quite in accord. This statement, however, did not add to nor detract from what had previously been a peril of the sea. One's conception of what is catastrophic may differ from that of another; but the words 'so catastrophic' could of course be replaced by colorless words like 'of such a character' without changing the legal import at all." *Duche v. T. & J. Brocklebank*, 40 F. (2d) 418 (2d Cir. 1930), at p. 419.

If a storm is unusually severe, *it is peril of the sea even if reasonably to be expected in those waters at that season of the year.*

"We need not resort to the somewhat rhetorical description of this storm by the officers to believe that it was one of unusual severity. *True, it was no more than was to be expected in those waters at that time;* but in some waters at some seasons, even hurricanes are not infrequent. Although this was not a hurricane, it was bad enough to damage the gear and superstructure of a seaworthy ship." Judge Learned Hand in *Philippine Sugar C. Agency v. Kokusai Kisan Kabushiki Kaisha*, supra, at p. 34. (Emphasis supplied)

"We may concede arguendo that they (perils of the sea) cover only 'extraordinary occurrences' (*Hazard v. Insurance Company*, 8 Pet. 557) but if

so, while they do not include those injuries which are the run of all voyages, *they certainly do include occasional visitations of the violence of nature, like great storms, even though these are no more than should be expected.* In England the phrase is certainly no less comprehensive." *Hecht, Levis & Kahn v. New Zealand Insurance Co.*, 121 F. (2d) 442 (2d Cir. 1941). (Emphasis supplied).

"Libelant has laid much stress upon the statement in the opinion of the District Judge to the effect that the storm, however violent, was not so great as not to be anticipated at that season of the year. The learned judge followed this statement, however, with the statement that there was much testimony to indicate that quite unusual and unexpected damages were received by the vessel. And he concluded his opinion with the statement: 'The gale was doubtless no greater in intensity than other storms which have occurred upon the Chesapeake Bay, and yet as a result of the combined fury of wind and wave, injuries occurred that could not have been foreseen. I am satisfied that the element of catastrophe was present in the situation, against which ordinary care was of no avail.'

"It is clear from this that the District Judge found present the elements necessary to constitute a peril of the sea. And his finding is not negatived by the statement that the storm although violent, was no more violent than was to be anticipated at that season of the year. Storms of the greatest intensity are to be anticipated in certain waters at certain seasons; and, if that fact removed them from the classification of perils of the sea, that term might as well be stricken from bills of lading. *The theory that to constitute a peril of the sea a storm must be of such intensity as not to be anticipated is one which finds no support in the law.*" Judge Parker in *Davison Chemical Co. v. Eastern Transp. Co.*, 30 F. (2d) 862, 864 (4 Circuit, 1929). (Emphasis supplied).

The Canadian cases are in accord and are even more categorical:

" . . . it is clear that to constitute a peril of the sea the accident need not be of an extraordinary nature or arise from an irresistible force. It is sufficient that it be the cause of damage to goods at sea by the violent action of the wind and waves when such damage cannot be attributed to someone's negligence." *Keystone Transports, Ltd. v. Dominion Steel & Coal Corp., Ltd.*, (1942) 4 D.L.R. 513 (Supreme Court of Canada).

Finally, this Court, by Judge Denman, has declared itself in accord with the foregoing principles:

"The carrier proved a storm of several days, with very heavy weather, in which the seas crossed the decks and damaged the No. 1 hold hatch coverings so that it was possible for the salt water to enter. There was other damage to the vessel, the heavy seas aboard smashing the door to the saloon alley and breaking off the guard plates for the steam pipes on the side of the No. 3 hatches.

.

"We find that the sea water damage to the cargo was due to the heavy storm, a peril of the sea, which caused an opening in the hatches through which the water entered." *The Wildwood*, 133 F. (2d) 765, 771-772 (9th Cir.).

THE TRIAL COURT'S FINDINGS

The Trial Court's Memorandum Opinion states:

"First to be determined is whether the PENNSYLVANIA storm was of such magnitude as to constitute a peril of the sea. I do not think it could be so considered. It is apparent from the evidence that the weather encountered, if not actually anticipated, certainly was of a kind reasonably to have been expected in January on trans-Pacific

voyages over the Great Circle route. There appeared to be nothing catastrophic about the storm. Other vessels withstood the wind and the sea, which leads to the inescapable conclusion that the PENNSYLVANIA was not seaworthy, or it too would have survived."

The Trial Court's Finding III follows this almost verbatim as follows:

"The storm, which has been designated as the Pennsylvania storm, in which the vessel sank was not of such magnitude as to constitute a peril of the sea, the weather encountered, if not actually anticipated, certainly was of a kind reasonably to have been expected in January on trans-Pacific voyages over the Great Circle route, and there was nothing catastrophic about the storm as all other vessels in the area withstood the wind and the seas, the sole and proximate cause of the sinking of the PENNSYLVANIA being her own unseaworthiness."

The Court nowhere reviews the evidence, and his Finding is apparently based on his premise that "all other vessels in the area withstood the wind and the seas".

That is not a valid reason for overriding the undisputed evidence of the *official records*, and the testimony of the Captains who were *in* the storm that it was the worst they had ever experienced (Captains Reid and Brown), only 2 or 3 like it in 35 years at sea (Captain Maeda), and "as bad as you can get" (Captain McMunagle) (Tr. 2004).

Furthermore, this basis for the Trial Court's Finding is untenable for several other reasons:

First, The strains and stresses and buffets that one

ship may get in a storm are very different from those of other ships in the same storm. It all depends on how she is loaded, in ballast or not, "stiff" or "tender", the direction she is headed, how the waves, or a quick succession of overpowering ones, may pour their tons of water on her, so that she has no time to rise from one before another hits her, or how some freak "mountainous" wave, like Captain Brown's, may come on her when she is not poised to receive it. As Mr. Nordstrom testified:—

A ship . . . "is in constant motion subject to varying loads and never in the same position, pitching, in which the bow rises up and alternately drops, and the stern rises and drops meeting heavy waves, rolling and twisting around from all points. The ship's hull is subject to constant reversed stress, changing stress magnitudes and the impacts of all types so that it is what—stresses in a ship are what are called statically indeterminate . . ." (Tr. 2867). And as he said again, in speaking of the stresses on a ship,—“The combinations of seas and weather are infinite.” (Tr. 2925).

It does not need this testimony—it is self-evident—that no two ships can be storm-tossed in an identical manner. The PENNSYLVANIA was as stout a ship as any. But we are reminded of the Court's remark in *The Sandfield*:

“If a vessel is reasonably sufficient for the voyage, and is lost by a peril of the sea, her owner is not responsible, as a carrier, for the cargo lost, upon proof that a stouter vessel would have out-lived

the storm." *The Sandfield*, 92 F. 663, 666 (Second Circuit).

And as that great admiralty judge, Addison Brown, said many years ago: "It was long ago held (*Amies v. Stevens*, 1 Strange, 128) and is laid down in *Abb. Ship.* † 389, as elementary law, that 'if a vessel reasonably fit for the voyage be lost by a peril of the sea, the merchant cannot charge the owners by showing that a stouter ship would have outlived the peril.'" *The Titania*, 19 F. 101, 107.

A second reason why the Judge's basis for his Finding is erroneous is that it is not true that "all other vessels in the area withstood the wind and the seas". True, none of them sank. The more distant ones 700 or 800 miles away and out of the storm's violence escaped. But the closer ones like the *SHOOTING STAR*, the *CYGNET III* and the *STONETOWN* all received serious damage, their Captains were worried for their safety, and any one of them, if she had been the victim of some fortuitous combination of the seas, might have sunk.

A third reason is that it ignores the fact that apparently none of these other vessels was as near the center of the storm as was the *PENNSYLVANIA*, and therefore, according to Captain McMunagle, not in as dangerous an area of the storm.

Conclusion, Regarding the Storm

When the official records show that this was the worst storm in the North Pacific since 1922; when the official records of Ocean Station Peter show that in the

period covered there were only 9 readings recording waves of 45 feet or higher, and that of those 9, 7 recorded at 3-hour intervals, *occurred on the day the PENNSYLVANIA was lost*; when the Captains who were *in* the storm say it was the worst, or as bad as any they had ever seen; when it overcame and sank the PENNSYLVANIA,—a stout, seaworthy ship, as every man who ever examined her testified; when no life-boat escaped; when there is no contradiction of any of this evidence,—there can be only one conclusion. And that is that the Trial Judge's Finding that this storm was not a peril of the sea is clearly erroneous. Indeed, the testimony being onesided, and uncontradicted as it is, his "Finding" takes on the aspect of an erroneous conclusion rather than a finding of fact. But even if it be regarded as a finding of fact, with some evidence to support it (which we deny), it is "clearly erroneous" under the definition in the McAllister case that a finding is clearly erroneous when "although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed." *McAllister v. U. S.*, 348 U.S. 19, 20, 99 L. Ed. 20, 24, 1945 A.M.C. 1999, 2001, *Permanente Silverbow - Colorado*, 1956 A.M.C. 695.

The PENNSYLVANIA Was Seaworthy—The Court Erred in Finding That She Was Not. Specifications of Error I, II and V.

SUMMARY

The Court erred in finding that the PENNSYLVANIA was unseaworthy. The basis for his conclusion, viz., that other ships survived the storm but she did not, was particularly erroneous; as was also his finding that the vessel had a "crack sensitiveness" "by reason of", i.e., caused by, the former crack in her deck, or at all. There was no testimony at all that this crack would cause "crack sensitivity".

Since the Court does not say in what respect the ship was unseaworthy at the inception of the voyage, it is difficult to know what he meant, but if he intended to find that the steering gear, or taking water in No. 1 hold, or the deck cargo coming adrift and taking the tarpaulins off the forward hatches, and No. 2 hatch being open and full of water, constituted unseaworthiness, —especially at the beginning of the voyage—he was clearly in error there too. There was no proof of it.

Although, since petitioner had proven a peril of the sea, the burden of proving unseaworthiness was on the cargo, the petitioner, though not called on to do so, affirmatively proved that the ship was seaworthy. That proof as we shall shortly show consisted in the testimony of experts who knew the ship; her successful use for eight years, five of them trans-Pacific; the fact that the officers and crew remained with the ship voyage after voyage, thus expressing confidence in her; and finally

that she passed through PENNSYLVANIA Storm No. 1 successfully, and fought PENNSYLVANIA Storm No. 2, the worst in thirty years, for many hours before she went down.

Seaworthiness is reasonable fitness for the voyage. We shall show that the ship met that requirement and that the Court erred in finding that she did not.

Argument

The findings of the Court on this subject are IV and V, and are as follows:—

“IV.

“That contributory factors responsible for the sinking of the SS PENNSYLVANIA are found in the radiograms sent from the vessel immediately prior to her sinking, stating that the vessel sustained a crack down the port side between frames 93 and 94; that the crack started in the sheer strake and ran down about 14 feet; that sea water entered the engine room of the vessel through this crack; that the vessel sustained a failure or breakdown of its steering systems and for a time the vessel was completely unable to steer by any method in heavy seas then existing and that if they could not fix the steering gear that they would need immediate assistance; that the vessel was taking water in the No. 1 hold; that the deck cargo on the forward deck came adrift and was taking off the tarpaulins on the forward hatches, and that No. 2 hatch was open and full of water.

“V.

“That the foregoing faults, failures, breakdowns and defects set forth in the preceding finding IV, together with the crack sensitiveness of the vessel to extreme cold weather by reason of a former 22-

foot crack in her deck occurring on her previous Voyage V, which crack was fully repaired, were factors of unseaworthiness culminating from the unseaworthy condition of the vessel at the inception of her voyage which prevented her from meeting the expected and to be anticipated weather conditions and proximately caused her sinking, with the total loss of the vessel, with all her crew and personnel aboard and all of her cargo."

The underlined words above were inserted by the Court at the instance of the petitioner. The remainder of the findings are exactly as presented by the Government.

It is difficult to know just what the findings mean because the Court does not say what was "the unseaworthy condition of the vessel at the inception of her voyage". All he says is that the foregoing "faults, failures, breakdowns" etc. were "factors of unseaworthiness" "culminating from the unseaworthy condition of the vessel at the inception of her voyage". That they were "contributory factors responsible for the sinking of the SS PENNSYLVANIA"; as stated in Finding IV, can hardly be denied. That they were "factors of unseaworthiness" *at the time of her sinking* is, in a sense, true too. For certainly if a vessel were to *put out from her original port* in that condition, with a crack in her side, taking water in No. 1 hold, steering gear failing, deck cargo adrift, etc., no one could argue that she was seaworthy. But the question is not whether they were factors of unseaworthiness *at the time of her sinking*. The question is: What was her condition *when she left the dock in Seattle?* On that the Court's finding is si-

lent, except to say that at that time she was "unseaworthy". It may be inferred that, by his reference to the "crack sensitiveness" of the vessel in extreme cold weather by reason of the 22-foot crack in her deck, he possibly meant that she was crack-sensitive at the inception of her voyage, and it was in that respect that she was unseaworthy. But as to the other "faults, failures, breakdowns and defects", he does not make it clear how they "culminated" from any unseaworthiness at the inception of the voyage,—or what that unseaworthiness was.

The upshot of it is that he held the vessel to be unseaworthy without being particular to say in what respect, except in the matter of the crack sensitiveness "by reason of" the former crack.

This finding is against the evidence of all the competent and qualified men who testified, and we shall show that it was clearly erroneous.

But before approaching that, we should inquire what was the *basis* or underlying reason for the Court's finding, against all the responsible evidence. The answer is found in his own Memorandum Opinion, already referred to, where he says,

"Other vessels withstood the wind and the sea, *which leads to the inescapable conclusion that the PENNSYLVANIA was not seaworthy, or it too would have survived.*" (Emphasis supplied).

He refers to this again obliquely in his Finding III, where he said that the storm was not a peril of the sea because "all other vessels of the area withstood the wind and the sea the sole and proximate cause of the PENNSYLVANIA's sinking being her own unseaworthiness".

Now this, as a reason for holding a ship unseaworthy, has no support whatever in the authorities. They are, in fact, directly to the contrary, as in logic they should be.

"If a vessel is reasonably sufficient for the voyage, and is lost by a peril of the sea, her owner is not responsible, as a carrier, for the cargo lost, upon proof that a stouter vessel would have outlived the storm. Ang. Carr. 173." *The Sandfield*, 92 F. 663, 666.

"The evidence discloses that the storm was a severe one, and the mere fact that none of the other ships in the vicinity suffered in the same way as did the 'Arlington' does not detract from this evidence." *The Arlington*, 1943 A.M.C. 388, 392 (Supreme Court of Canada).

"Suffice it to say that the fact of one vessel's ability to remain afloat under given conditions is not sufficient to raise a presumption of another vessel's unseaworthiness, if she sinks under the same conditions of wind and sea. Seaworthiness must be tested by a more precise rule and the condition of each vessel determined by known factors, not by mere prima facie parallel situations which, at most, are slightly persuasive but not at all conclusive, of the condition sought to be proved." *The Carroll*, 60 F. (2d) 985, 993 (D.C.D. Md. 1932).

Also, *The Titania*, 19 F. 101, 107, already cited.

We know of no cases that go contrary to these authorities. The reasons for refusing to base any finding of unseaworthiness on the fact that other vessels survived are obvious. They have already been referred to in this brief in discussing perils of the sea. The combinations of sea and weather are so infinite that no inference from the behavior of one vessel in a storm is appropriate re-

garding another vessel in the same storm. It would be impossible to prove the condition, design, loading and navigation of every other vessel that was in the storm. If an unfavorable inference were to be drawn, petitioner should have the right to offer detailed evidence regarding each vessel. Also, as has already been pointed out in this brief, while other vessels in the "area" were as much as 700 or 800 miles away, and out of the storm's violence, those close to the PENNSYLVANIA suffered severe damage,—damage that might have been fatal had it hit the ship in more vulnerable spots.

If the fact that only a few vessels, out of all the merchant fleets in the world, sink with all hands, raises a presumption of unseaworthiness, then every carrier in the world is an absolute insurer against total loss, since by hypothesis the only witnesses who could with certainty state the cause of the loss are dead. That would indeed be a strange way to carry out our declared National Policy of encouraging the American Merchant Marine.

The error of the trial judge seems to us the more remarkable because the cargo claimants had the *burden of proving* unseaworthiness. The petitioner having proved peril of the sea, the burden then passed to the cargo claimants to prove unseaworthiness. The Trial Court, on the flimsy basis that "other vessels withstood the wind and the sea, which leads to the inescapable conclusion that the PENNSYLVANIA was not seaworthy, or it too would have survived" must have held that they sustained that burden. He calls it a "conclusion". As such it was clearly erroneous, not only because based on an entirely

false reason which all the courts, as shown above, have repudiated, but also because it was against the overwhelming weight of the evidence which proved the ship seaworthy. That evidence we shall now discuss.

EVIDENCE OF THE PENNSYLVANIA'S SEAWORTHINESS

The PENNSYLVANIA (ex 'Luxembourg Victory') was built at Oregon Shipyard by the United States Maritime Commission according to plans and under the supervision of the American Bureau of Shipping in 1944. Her steel met all the requirements of the Bureau. She was a Victory ship and as such was especially designed for welding, and, by reason of the experience in building the Liberty ships, embodied in her original construction all the corrective and preventive measures against cracking which had been omitted in the Liberty ships (Tr. 2737-39; 383; 1877-1878).

She was operated for a time for the Maritime Administration by Lykes Bros. Her then master testified she was a "very good" ship (Tr. 2227).

For four years prior to her purchase by petitioner she was operated trans-Pacific by Pacific Far East Line, as agent for, or under bareboat charter from the Maritime Administration. During this period her principal base port was Seattle, where Mr. Knowles was her husbanding agent and took care of her maintenance and repair (Tr. 450-452). He testified that through all this service she was a "very good ship and was one of the best that we operated" (Tr. 452). Her constant use, trans-Pacific, should be the best test of her fitness for the voyage on which she was lost on the same trade route.

She was purchased by petitioner from the Maritime Commission in February, 1951 (Ex. 3). Mr. Tucker, representative of the Maritime Administration, at the sale, testified she was "in good seaworthy condition" at that time (Tr. 748). The price was a little over one million dollars,—the "floor price" fixed by the Merchant Ship Sales Act of 1946 (50 App. USCA §§ 1735-1746) under which at least 25% of the purchase price must be paid in cash at time of purchase. Prior to and in anticipation of her acquisition, petitioner spent \$79,965.00 (Tr. 157-58) in betterments.

She was renamed the PENNSYLVANIA. Her dimensions are admitted as follows: Overall length 455 ft. 3-11/32 inches; breadth 62 ft.; depth 38 ft.; gross tonnage (without deduction for engineroom space) 7,608 tons; net tonnage 4,551 tons. She was a single screw steel vessel.

Her Certificate of Registry (Exh. 5) shows that her registered length between perpendiculars was 439.1 ft. and her horsepower 8,500.

Immediately prior to her purchase by petitioner a "condition survey" of the ship was made (Exh. 2). The report of it shows that Mr. Tucker and Mr. Hare signed it for the seller, the Government, which is the largest claimant in this proceeding, Mr. Knowles for Pacific Far East Line and Mr. Brenecke for the to-be new owner,—this petitioner. All these men agreed that the ship at this time was in first class seaworthy condition (Tr. 748, 456, 328; Exh. 2).

So also did Mr. F. P. Miller, the surveyor of the

American Bureau of Shipping, who passed upon the reconditioning (Exhs. 30, 31; Tr. 399), and Commander J. E. Rivard, of the U. S. Coast Guard, who likewise passed on the reconditioning and whose entry in his dry-dock examination report, page 18, contains this entry:

“30 January 1951—alone at Todd’s, vessel floated off dock this date. Vessel seaworthy.” (Exh. 50; Tr. 588).

So also did John D. Gilmour, the hull surveyor representing Lloyds Underwriters at the time of the reconditioning (Tr. 2383).

Subsequent to her purchase by petitioner she made five trans-Pacific voyages. Her log books, Exhs. 40 to 44, show that upon these voyages she encountered many instances of storm and heavy weather, all of which she survived,—the best proof of her general seaworthiness. On Voyage 5 she suffered the crack in her deck mentioned in the trial judge’s Findings. It was caused by a combination of three unusual factors,—(1) heavy weather, (2) a tiny incipient crack in a pad-eye on the deck, creating a “notch”, and (3) a heavy deckload of Jap squares (large squared timbers) concentrating stress on the deck at that particular place (Tr. 211-215, 309, 1859).

The vessel turned back and came to Portland, a distance of 1500 miles, in bad weather, where the crack was fully repaired. So far from this crack being an evidence of “notch sensitivity” of the steel, or, as the Court puts it, “crack sensitiveness”, the fact that it did not extend farther across the deck, is evidence of the general toughness of the steel. In fact, Mr. Williams, the cargo claimants’ own witness whom they brought out from

Washington for their own special purpose, said that he made laboratory tests of a specimen of this steel taken from this very crack and found that it met all the requirements of the American Bureau of Shipping, which, be it remembered, was the designated agency selected by the Government itself to supervise the building of these ships (Tr. 1877-78). More on this crack later.

In August, 1951 (which was before this crack), the PENNSYLVANIA underwent her annual survey by the American Bureau of Shipping and the U. S. Coast Guard, the ship's officers also participating, at Tacoma and Seattle. Her hull, machinery, steering gear, hatches and all equipment were all carefully examined and proved satisfactory. Commander Hamilton and Inspector Rojas, both of the Coast Guard, and Mr. Miller, surveyor of the American Bureau of Shipping, made these examinations and testified in court in person and declared the ship to be completely seaworthy (Tr. 670, 721, 411-414; Exhs. 13, 33, 53, 55). Petitioner's personnel who participated in the survey testified to the same effect (Tr. 170-172, 494).

The vessel having now completed five trans-Pacific voyages successfully, was drydocked at Todd's Drydock in Seattle in December, 1951, for her annual drydock inspection. She was there examined by Commanders Hamilton and Brown of the Coast Guard; Mr. Wilson of the American Bureau at Seattle, Mr. Brenecke, petitioner's assistant port engineer, by Mr. Matthews, the ship's chief engineer for the five voyages, by Mr. Reid, the ship's chief engineer for Voyage 6 (Mr. Matthews having laid off for private reasons) and by Mr. Good-

rich, superintendent at Todds. All these men found her in good condition; and so testified in court, except, of course, Mr. Reid, who was lost with the ship (Tr. 670-76, 724-735, 750-763, 331-33, 1717-1721, 347-49, 2817-2820; Exhs. 54, 57). This was only fifteen days before the ship's departure from Seattle on the fatal Voyage 6.

After this she proceeded to Vancouver, B. C., where she loaded a cargo of barley in all of her holds under the strict supervision of the Port Warden and in accordance with the Canadian Grain Regulations, which are notoriously exacting. There is no criticism of this loading.

She then returned to Seattle and there completed her loading. All of this Seattle cargo was Army cargo, carried under an amended shipping contract known as MST-60 (Exh. 132B). The vessel carried a very small deckload, only some acid in carboys and some acetylene tanks stowed forward, and 18 small 2-wheel trailers stowed on the starboard deck by No. 2 and No. 3 hatches, and 2, 7-ton, trucks, one on the square of No. 4 hatch, and the other on the starboard side of the hatch. The whole deck cargo weighed only 67 long tons (Exhs. 81, 81A, 83, 187). Pursuant to the shipping contract, all of this cargo, both under and on deck, was loaded by the Army's own contracting stevedore and the loading and stowage were approved by the ship's master and mate, by the super-cargos both for the Army and the petitioner and by two surveyors for the San Francisco Board of Marine Underwriters (Exh. 132B; Tr. 1065-1094, 1132-1141, 1173-1200, 1728-1734, 2679-2692, 973-1017, 2133).

The vessel left Seattle shortly after 8 A.M. January 5th in good trim and not loaded to her winter marks (Exh. 27; Tr. 1092). She was piloted from Seattle to the pilot station by Captain Lovejoy, a regular licensed Puget Sound Pilot. The distance was some sixty odd miles and Captain Lovejoy testified the ship behaved perfectly during this run (Tr. 740). Captain Lovejoy was the last man alive to see her. She was bound for Yokohama via the customary Composite Great Circle Route.

She passed through Storm No. 1 and withstood Storm No. 2, the worst in 30 years, for 21 hours before she went down, during which she executed the most dangerous maneuver a ship can make in such a storm—turning around.

What does this record indicate as to the vessel's seaworthiness?

First: We have the testimony of the many expert men who examined her and whose responsibility it was.

Second: We have her successful use,—her navigation of the seas for eight years, the last 5 years on this very trans-Pacific route where she was wrecked. We know that on her five trans-Pacific voyages under ownership of the petitioner she encountered many storms and survived them all.

Third: We add the fact that as shown by the crew lists, on the first page of each log book in evidence, many of the officers and some the crew remained with the ship through all five voyages,

evidencing their faith as seamen in her seaworthiness.

Fourth: We have the evidence that she passed through Pennsylvania Storm No. 1 successfully and battled Pennsylvania Storm No. 2—the worst storm in 30 years—through the night of January 8th and well into the afternoon of January 9th. She even survived for more than six hours the damage she incurred in the dangerous maneuver of turning around before, at last, under the repeated blows of the elements, she went down.

Let us take the first:

Commencing with her condition survey in February, 1951, and ending with her drydocking in December, 1951, she was examined by at least eighteen expert men, all of whom pronounced her seaworthy. They are:

E. D. Tucker, representing the Government at the condition survey (Tr. 746-48; Exh. 2).

Roy E. Knowles, representing Pacific Far East Line, which as charterer was turning the ship back to the Government (Tr. 455-56; Exh. 2).

F. P. Miller, surveyor for the American Bureau of Shipping at the condition survey, and who surveyed the ship again at her annual inspection in August, 1951 (Tr. 399, 406-415; Exhs. 31 and 33).

Commander Rivard of the U. S. Coast Guard, who supervised the reconditioning repairs (Tr. 600-601, 614, 623; Exhs. 49-52).

John D. Gilmour, hull surveyor representing Lloyds at the time of reconditioning (Tr. 2383).

Lt. Rojeski of the U. S. Coast Guard who surveyed the ship's hull and equipment at the annual survey in August, 1951 (Tr. 700-721; Exh. 55).

Commander Hamilton of the U. S. Coast Guard, who also participated in the annual inspection August, 1951, and again at the drydock examination in December, 1951 (Tr. 656-676; Exhs. 53, 54).

Harold R. Pratt of the American Bureau of Shipping (Tr. 896-97; Exh. 66).

Captain Endreson of the U. S. Coast Guard (Tr. 869, 875-876; Exhs. 63-65).

Captain D. L. Bennett of the U. S. Salvage Association (Tr. 1130-31; Exh. 85).

Kenneth Webb of Lloyds of London (Tr. 1123; Exh. 84).

K. C. Sloan, of Albina Engine & Machine Works (Tr. 849; Exh. 10).

(The survey and inspection of these last five pertain only to the repair of the deck crack.)

J. D. Wilson of the American Bureau of Shipping at Seattle, who examined the ship at her final drydock inspection (Tr. 763; Exh. 57).

James F. Goodrich, Superintendent of Todds Drydock, who also examined the vessel then (Tr. 2818-21).

Besides these men, none of whom was employed by or was affiliated with petitioner, the following testified:—

L. A. Vallet, acting Marine Superintendent for the petitioner (Tr. 143-45, 177, 224-25, 266-69).

H. R. Brenecke, Assistant Port Engineer of petitioner (Tr. 328-334).

Captain Joe Bishop who was chief officer on two voyages and master on a third (Tr. 485, 487, 489, 491).

C. E. Matthews, chief engineer of the PENNSYLVANIA for five voyages (Tr. 336, 338-339, 342, 347-349, 379-380).

All of these men, eighteen in number, all experts and all of whom knew the ship, testified that she was seaworthy.

In connection with this testimony we hope it will not be deemed presumptuous if we remind this Court of the functions of the Coast Guard and the American Bureau of Shipping and their peculiar responsibilities. They are in a sense trustees for the safety of life and property at sea, and are by statute the agencies designated by our Government to carry out these duties.

The inspection of vessels by the U. S. Coast Guard is described in 46 USCA § 391, as follows:

"Hulls and equipments; exemption of vessels; enforcement of requirements. The Coast Guard shall, once in every year, at least, carefully inspect the hull of each steam vessel, and shall satisfy itself that every such vessel so submitted to inspection is of a structure suitable for the service in which she

is to be employed, has suitable accommodations for passengers and the crew, and is in a condition to warrant the belief that she may be used in navigation as a steamer, with safety to life, and that all the requirements of law in regard to fires, boats, pumps, hose, life preservers, floats, anchors, cables, and other things are faithfully complied with; and if it deems it expedient may direct the vessel to be put in motion, and may adopt any other suitable means to test her sufficiency and that of her equipment. . . . As amended 1946 Reorg. Plan No. 3, §§ 101-104, eff. July 16, 1946, 11 F.R. 7875, 60 Stat. 1097."

The designation of American Bureau of Shipping as the official classification society for vessels owned by the United States is in 46 USCA § 881:

"Classification of vessels by American Bureau of Shipping. For the classification of vessels owned by the United States, and for such other purposes in connection therewith as are the proper functions of a classification bureau, all departments, boards, bureaus, and commissions of the Government are hereby directed to recognize the American Bureau of Shipping as their agency so long as the American Bureau of Shipping continues to be maintained as an organization which has no capital stock and pays no dividends. . . ."

As the court said in *The Zarembo*,—

" . . . It would be difficult to suggest more competent persons to make such inspections than the surveyors of the American Bureau of Shipping, the United States Government Inspectors of the Department of Commerce, the Port Engineer and Marine Superintendent of the claimant, and the officers of the ship itself. . . ." *The Zarembo*, 44 F. Supp. 915, at p. 919 (E.D.N.Y. 1942), affirmed 136 F. 2d 320; cert. den. 320 U.S. 804.

It should be noted also that all of these men appeared in court and testified in person. We did not merely submit their certificates. We subjected them to cross-examination.

In addition to all the foregoing experts who actually saw the ship, the Court heard the testimony of Mr. D. P. Brown and Captain Carl J. Nordstrom. Neither of these men saw the ship, but they knew her records and they testified unreservedly that in their opinion the ship was entirely seaworthy. We shall discuss their testimony later. Both these men have eminent qualifications. Mr. Brown is Senior Vice-President and Technical Manager of the American Bureau of Shipping and a member of the Ship Structure Committee appointed by the Secretary of the Treasury and so often referred to in the testimony. Captain Nordstrom is a naval architect of wide experience.

Second: In addition to the testimony of all these men, we have the evidence of the vessel's actual use for eight years. There is no better test of the fitness of anything, be it a ship, an aeroplane, a locomotive, a draw-bridge or anything else, than to use it. If it successfully stands the test of use it is good. We therefore turn to the use that was made of the PENNSYLVANIA.

After she was built in 1944 she was operated for a time by Lykes Brothers. She ran on a reef on her second voyage but the damage was not serious, her tank tops were not punctured, she got off without tugs and was completely repaired. After her service with the Lykes Brothers she was bareboat chartered by the Gov-

ernment to the Pacific Far East Line, and operated out of Seattle trans-Pacific on the very trade route in which petitioner subsequently operated her. She successfully navigated under all trans-Pacific conditions and at all seasons for four years, and during all that time, as Mr. Knowles, her agent at Seattle, testified, was a "very good ship and was one of the best we operated" (Tr. 452). After she was purchased by petitioner in February, 1951, she made five trans-Pacific voyages and her log books show that on these she encountered many storms and heavy weather, all of which she successfully withstood (Exhs. 40-44). It is true that on Voyage 5 she sustained the deck crack due to the combination of factors which has been explained, but she returned to port without any difficulty, had the crack repaired and resumed and completed her voyage, all the way across the Pacific and back without further incident.

Third: The fact that the ship's officers and many of the crew remained with the ship voyage after voyage, as shown by her log books, is evidence of the belief of these men in the seaworthiness of the ship; and since these are seamen, expert in ships, their belief, thus evidenced, is evidence of the seaworthiness itself. Nobody can know a ship better than the men on her. "Know Your Own Ship" is the title of a well-known manual.

Finally, her seaworthiness is proven by her behavior in the storms. She passed through PENNSYLVANIA storm No. 1 successfully, which storm was itself unusual, with waves of 20 feet or higher, for a period of over 21 hours, including 10 hours with waves of over 30

feet. But more important, is the long and gallant battle she put up against PENNSYLVANIA Storm No. 2, which she entered on the evening of January 8th, and successfully withstood until half past three in the afternoon of the 9th.

There is one feature of her battle which we call to the Court's attention because it negatives unseaworthiness, and places the loss clearly where it belongs,—on the storm. We refer to the damage inflicted by the seas on the ship in the *vulnerable maneuver of turning around in those dangerous seas*.

The first message from the ship announcing the crack, expresses no particular concern, and does not send an S.O.S. The next message continues in the same vein and says "will turn around as soon as possible and proceed Seattle" (Exh. 108). The seventh message, in the sequence listed, sent some three hours later, said "endeavoring to steer course of 110° , can't steer at present, taking water Nr one hold and engine room" (Exh. 127). Since his previous course on the composite Great Circle Route would be about 290° , we know from this course of 110° , that he had carried out his previous expressed intention of turning around and heading for Seattle. The extreme dangers of such a turn in those seas has been described by cargo claimants' own witness, Captain McMunagle, in his testimony already quoted (Br. 30). He said she might strip herself of everything; lose her ventilators; damage her openings,—water-tight doors, for instance—; have them smashed in; and generally be so badly damaged she could take water and founder (Tr. 2009).

He supplemented that testimony with this:

Asked whether, in a storm, it would not be more difficult to turn a loaded cargo ship like the PENNSYLVANIA than a smaller powerful frigate like the STONE-TOWN, he said:

“A. I don’t know if it would make it any more difficult, but it would not be nice. I have had some experience turning a ten thousand ton ship around too.

Q. What?

A. In turning a ship of ten thousand tons. I didn’t like it, but she went around.

Q. It was dangerous, though, wasn’t it?

A. Dangerous, yes. Any ship is dangerous when she is turned like that.

Q. In seas like that? A. In seas like that.” (Tr. 2011).

Similarly Captain Brown of the CYGNET III testified to the dangers of making such a turn:

“A. Well, you have your ship going as slow as possible, and you watch the series—your waves come in a series like, during a storm of this nature it might be any period of time the wind will be terrific, the seas exceptionally more severe. Then maybe for five or ten minutes you will get a lull, and then pretty soon she will pick up again and be right back to its original severity. Well, you wait for a lull and the—I don’t know how to describe it—at the proper time to change course, you know, when the seas are just right.” (Tr. 1642).

Captain Reid of the SHOOTING STAR referred to the same dangers. Asked if he would not have turned back to the nearest port if his ship suffered major damage, he said:

“A. Yes, if I could have come around. A lot of

times when you are in a storm of that intensity you cannot get around." (Tr. 1813-14).

Now the very radiogram, quoted above, (seventh in the series of exhibit 126) stating that the PENNSYLVANIA was "endeavoring to steer course of 110°" shows that she had turned completely around from her previous course of about 290°, but also shows that the ship, previously unscathed except for the crack, had become seriously damaged. She was taking water in No. 1 hold, which would put her down by the head, and she was having some trouble with her steering gear. The clear implication is that she suffered this during the turn. From then on, her condition grew progressively worse until she foundered.

The fact that she was able to turn at all in those seas, is evidence of her general seaworthiness; and the fact that she finally sank, after many hours, apparently from damage which had its inception in the turn and grew worse, is no proof of unseaworthiness; but is rather confirmation of what Captain McMunagle, as a seaman told us,—that even the stoutest ship may be wrecked in such circumstances. Remember that neither he nor Captain Maeda was able to turn his ship around for more than three hours after the S.O.S. Captain McMunagle, during those hours, did not even dare attempt it.

In short, here we have the best evidence in the world that it was not any unseaworthiness which sank the PENNSYLVANIA, but rather it was the "vicious" seas sweeping her decks and pounding her while in the most vulnerable and dangerous position in which a ship can get.

Of course, the act of Captain Plover in turning around was an act in the navigation of the ship for which petitioner would not be liable under the exemption accorded in both COGSA and the Canadian Act that the ship-owner is not liable for an "act, neglect or default of the master . . . in the navigation or in the management of the ship". 46 USCA § 1304(2)(a).

Having proved the general seaworthiness of the ship, we now turn to the Trial Court's finding about

**"CRACK SENSITIVENESS" "BY REASON OF" THE
FORMER 22 FOOT CRACK IN THE DECK**

Since the Trial Court's finding has laid special emphasis on this, we single it out for special comment.

But before doing so, we must say to this Court, at the outset, that we think "crack sensitiveness" has very little to do with the case. It was not the cause of the loss of the PENNSYLVANIA. Its only possible relevancy would pertain to the 14 foot crack in the vessel's side. But it was not that crack which sank the ship. The crack did not propagate. It stopped. The ship did not break in two. The crack only extended four feet below the water line, and the only leakage from the crack was in to the engine room, and there the pumps were controlling the water. The Master was never worried about the crack sufficiently to send out an S.O.S. The S.O.S. came later. The real thing that sank the ship was not the crack, but apparently was the foundering because of the water in No. 1 and 2 holds.

Nevertheless, since so much has been made of this matter of crack sensitiveness, we shall now discuss it.

The Trial Court's Finding, V, says that "the crack sensitiveness of the vessel to extreme cold weather *by reason of* a former 22 foot crack in her deck occurring on her previous Voyage 5, which crack was fully repaired" was a factor of unseaworthiness "culminating from the unseaworthy condition of the vessel at the inception of her voyage". (Italics supplied.)

First we shall say a word about crack sensitiveness generally. The term usually used, and appearing throughout the testimony, is "notch sensitivity", which means that if steel is going to crack at all, the crack will almost invariably start at a "notch" in the steel. By a notch is meant any angle. Such, for example, as the square corner of a hatch. The same phenomenon may be observed when you tear a piece of paper. The tear will start where you first create a little tear or notch or angle in the edge of the paper. It is for this reason that in ship construction such acute angles are, as far as possible, avoided.

Notch sensitivity does not mean that steel is bad. It means that notches are the incipient causes or probable places where cracks may start. The emphasis is on the notch.

In this sense all steel ships are notch sensitive. The sensitivity is more apparent in welded ships than in rivetted ships because in welded ships the steel plates are welded into one continuous fabric of steel so that when a crack starts, it may continue through the fabric for some distance without interruption, whereas in a

rivetted ship each plate is a separate unit and the crack usually stops when it reaches the edge of that unit.

When the PENNSYLVANIA was built by the Maritime Commission, it, like all the other Victory ships, was built under the supervision of the American Bureau of Shipping, and the Bureau constantly tested the steel from the different mills to see that it met all the standard requirements (Tr. 2739). The PENNSYLVANIA was no different from the other Victory ships in this respect. If the Court is going to condemn her for quality of steel, it will have to condemn the whole fleet of Victory ships,—a large part of our merchant marine.

Not only do we know, from these American Bureau tests, that the PENNSYLVANIA steel met all the requirements, but we have further concrete, positive proof from cargo claimants' own witness that it did. We refer to the testimony of Mr. Williams, the Government's expert on steel, brought out from the Government laboratories in Washington, especially to testify in this case. He had with him a sample of the very steel taken from the PENNSYLVANIA's deck where she cracked. This sample, according to routine practice, had been sent by the Albina Engine & Machine Works' repair yard back to the Government laboratories in Washington for testing. This was done on all ships where major cracks appeared. It was thus that Mr. Williams obtained the sample. He testified several times that this specimen of steel met all the standard requirements at that time.

For example,—

“A. We found that the tensile properties as

measured with a standard .505-inch-diameter specimen were better than the requirements in effect at the time this ship was built." (Tr. 1859).

Again,—

"I believe it is a representative sample of the steels used at that time in ship construction." (Tr. 1869).

Again,—

"It is a sample—one sample out of the many plates in the ship. It conformed to the specification requirements in effect at the time that ship was built, and I believe it may be assumed that many other plates in the ship were very similar in properties to this plate." (Tr. 1875).

Again,—

"A. What I meant was that this plate was of average quality compared to plates used at that time." (Tr. 1877).

And again,—

"Q. Well, then, I take it your answer meant that this steel that you examined met the American Bureau of Shipping requirements as they existed at that time; is that what you meant?

A. That is correct. The requirements included only the tensile and the bend test . . ." (Tr. 1878).

It is thus quite apparent that the PENNSYLVANIA steel was no more "crack sensitive" than the steel of any other ship. To penalize a shipowner for unseaworthiness in the steel of his ship when that steel met every requirement laid down by the American Bureau of Shipping and the Government itself, and was no different from the steel of the whole fleet of Victory ships in the American Merchant Marine, would certainly be

going very far indeed; especially when it is remembered that seaworthiness is not necessarily perfection, but merely reasonable fitness for the service.

Nor must it be overlooked that new plates were inserted; and this crack was fully repaired. Even the Court's findings conceded that. The repair was made at the Albina's Yard, a shipyard of fifty years' experience, and was supervised not only by the petitioner's personal staff, but by the Albina superintendent and foreman, by the American Bureau's surveyor, Mr. Pratt, by Captain Endreson, of the U. S. Coast Guard, by Captain Bennett, representing the U. S. Salvage Association, and Mr. Webb, representing Lloyds of London. All of these men testified personally that the repairs were well and completely done and that the ship was as good as she was before. In fact, Mr. Vallet testified that she was better than before because the incipient "notch" at the padeye which started the crack had been removed (Tr. 215).

The strongest proof of the adequacy of this repair is the fact that the crack never opened again, nor gave any trouble of any kind, although the ship went all the way across the Pacific and back on Voyage 5; and even in the disastrous and fatal storm when the ship was being battered to pieces, this part of the ship remained intact. The radiograms mentioned no trouble at this point at all.

Finally, we come to what seems to us a strange misconception on the part of the trial judge. He says that the ship was crack sensitive "by reason of" this former

deck crack. This is entirely against reason and against the evidence. In fact, there is *no* evidence to support it. This deck crack could not *cause* "crack sensitiveness" in the ship. Even while still unrepaired, it could not affect any other part of the ship outside of the immediate "girth area" of the crack. (The girth is any space extending around the girth of the ship and about 6 or 8 feet fore and aft, of the point in question,—in this case the crack.) Other parts of the ship, beyond this girth, did not even feel the effect of this crack, though still unrepaired (Tr. 2764, 2780-82, 306). And even in the girth area itself, any effects existing while the crack was still open would disappear when the crack was repaired (Tr. 2803-04).

But further than this, the crack could not set up or *cause* any crack sensitivity even in its own immediate neighborhood. If anything, the crack would *relieve* any tension that might have existed in the deck plates. That, it seems to us, is obvious even to a layman. The deck would not crack unless *tension induced* it. When the crack occurred that tension would be *relieved*. As Mr. Vallet testified in regard to welding repairs: "In fact, that acts as a stress relief. It relieves the stress." (Tr. 265). Cf. Nordstrom to same effect (Tr. 2894-95, 2922-23).

This whole idea of crack sensitiveness occurring "by reason of" the 22-foot deck crack is immaterial to the case for still another reason. The only crack that appeared on the fatal voyage, the one 14 feet down on the port side in the way of the engineroom between Frames 93 and 94, is so far removed from the earlier 22-foot crack in the deck that the two are utterly disconnected.

All the competent men that testified said that there could be no possible connection between the two (Tr. 2804, 2884, 299-300). The crack between Frames 93 and 94 was 62 feet athwartships and 60 feet aft of the deck crack. The distance between the two, diagonally across the ship, was 90 feet (Tr. 299). And in addition, the crack in the port side of the ship was separated and isolated from the whole deck of the ship, including, of course, the place where the 22-foot crack had been, by a crack-arresting gunnel bar (Tr. 300, 275, 2443). It hardly needs the testimony of the expert witnesses like D. P. Brown, Captain Nordstrom, Mr. Vallet and others to establish the obvious fact that this was too far away, and too isolated, for any hypothetical "crack sensitiveness" between Frames 93 and 94, to have existed "by reason of", i.e., caused by the deck crack.

Finally, could the deck crack, occurring in November, 1951, create a "crack-sensitivity" in another part of the ship so soon as January, 1952? To ask that, is to answer it.

The finding that the vessel had a crack sensitiveness "by reason of" the former 22-foot crack was drafted by the Government's counsel. The Trial Court must have adopted it without due consideration of its meaning. There is *no evidence whatever* to support it.

In support of the claim that the vessel was "notch sensitive" or "crack sensitive" or subject to "brittle fracture" (they all mean the same thing), the cargo claimants relied almost entirely on the witness, Mr. Hechtman.

Now the interesting thing is that Mr. Hechtman had an entirely different theory from the Court's. Mr. Hechtman thought that the vessel might be or "could be" subject to brittle fracture, not "by reason of" the 22-foot crack, as the Court said, but because of an assumed slight "hog" in the vessel. The Court evidently paid no attention to this, since he does not mention it. And since it is only the Court, from which we are appealing, we are tempted to do as he did and ignore Mr. Hechtman. But Mr. Hechtman was the cargo claimants' chief reliance. So we shall discuss his testimony.

In the first place, Mr. Hechtman's qualifications are questionable. He is not a naval architect, has never designed a ship, or had any occasion to consider the stresses and strains involved in ship construction (Tr. 2589-90). Never before this case has he had occasion to study how damage in one area of a ship might affect it in another. Except when he did some work for Dravo, his work has been entirely that of research (Tr. 2590). Never before has he made any study of the effects, if any, of a vessel grounding (Tr. 2592). Never has he surveyed a ship for a hog. Never has he examined a large size vessel in drydock (Tr. 2599-2600).

These are the limitations on his qualifications. The limitations on his evidence are even more pronounced. His whole theory was based on an assumed and false hypothesis, viz., that the vessel was hogged, sufficiently to put a strain on her hull and deck. A "hog" in a vessel, as this Court knows, is when the bottom is bent or curved upward amidships. It may be a mere "dishing",

affecting only the bottom, or, in more extreme cases, the whole hull.

The assumption that the vessel was hogged, so as to strain the hull, or hogged at all, for that matter, is not true. The hypothesis was false. But based upon it, Mr. Hechtman reasoned thus:

1. The vessel was hogged.
2. Sufficiently to put a strain on the whole hull and deck.
3. This hog was not part of the original construction. (For if so, there would have been no strain.)
4. It was the result of grounding on a reef near the Fiji Islands.
5. This put a permanent hog in the vessel, and produced a strain.
6. This produced "strain-aging".
7. This in turn produced notch sensitivity, or as he called it, brittle fracture.

The hypothesis is false.

It is based on this statement in the Report of Special Survey No. 1, made at San Francisco January 12, 1949, Report No. 8785 (included in Exh. 147):

"The wavy condition of the bottom as outlined in Los Angeles Report No. 3079, dated May 6, 1948 was re-examined at this time and is considered to be very slight and of no consequence. In the opinion of the undersigned, the small amount of hogging which is present is the result of the original construction of the vessel and does not affect seaworthiness in any way."

On this we make these observations:

1. It was mere hearsay. It was not properly in evidence at all. The surveyors who signed it were not produced. If they had been subjected to cross-examination, they probably would have said the "small amount of hogging" is a mere supplemental repetition of the "wavy condition of the bottom" mentioned in the preceding sentence. As confirmation of this use of terms, compare Mr. D. P. Brown's statement that in experimental tests to create a "hogging condition", "It was the same pattern as this waviness." (Tr. 2754).

Also, since these surveyors were trained, competent men, who saw the ship and were the ones who noted the condition, they would probably have testified that they knew what they were talking about when they attributed the "small amount of hogging" to the original construction.

2. If this alleged hog was of a character to strain or distort the hull, and induce brittle fracture, would these two competent surveyors have said it was "small" and did "not affect seaworthiness in any way"? They were the ones who ought to know.

3. It is a necessary link in Mr. Hechtman's reasoning that the ship became hogged when she went over the Fiji Island reef. Yet the surveyor, Mr. Mattson, who in Report 8785 mentions the "small amount of hogging", is the very same surveyor who some years before surveyed the damage repairs after the Fiji stranding. Report No. 7618 (Exh. 147). And *he makes no mention of any hog at all.*

4. Claimants' Exh. 147 is a compilation of all the American Bureau's survey reports on this ship from September 30, 1944 (the Fiji Island grounding repairs), to January 31, 1951. During this period she was surveyed on drydock sixteen times. Except the Special Survey Report 8785, which mentions the "small amount of hogging", *not one of these other fifteen reports mentions such a thing at all*. And neither did the survey of December 21-22, 1951, the one just before she sailed (Exh. 57). (It is not included in Exh. 147.) So there were *seventeen* drydock surveys, which never mentioned a hog.

5. Besides all these A.B.S. surveyors who failed to see any hog, the following actually testified in court that they had examined the ship on drydock, and that there was *no hog*. Commander Hamilton (Tr. 694); Surveyor Wilson (Tr. 764); Mr. Goodrich (Tr. 2819); Mr. Brencke (Tr. 2724); Chief Engineer Matthews (Tr. 2829-30); Mr. Sanderson (Tr. 952). Many of these examined her as late as December, 1951. In addition, Mr. Gilmour, claimants' own expert witness (on another question), and whom they vouched for, said that the ship had no hog (Tr. 2379-80).

6. It is essential to Mr. Hechtman's chain of reasoning that the alleged "small amount of hogging" be caused by grounding, and not be a part of the original construction of the ship. For *if* the latter, there could be no strain. The surveyors who noted it, and who should know, if anybody, said it was part of the original construction. In an attempt to disprove this, claimants referred back to some testimony given earlier in the

case by Mr. Miller, A.B.S. surveyor, who was the A.B.S. representative at the Oregon Shipbuilding Co.'s yard when the PENNSYLVANIA, along with a lot of other Victories, was being built. His duties were "To see that the vessels maintained the standards that were set down by the classification society by whom I am employed." (Tr. 383). Early in the case, before Mr. Hechtman's theory came out in the open, Mr. Miller was somewhat casually asked on cross-examination whether he was at the Yard when the "Luxembourg Victory" (PENNSYLVANIA) was launched. This testimony followed:

"A. That is right, sir.

Q. And there was no hog in the construction of the vessel?

A. What do you mean, 'hog'?

Q. This way (illustrating)?

A. No, there was none. At the time she was launched, as far as inspection, there was no noted hog. I don't think there was any." (Tr. 418).

It is from this brief passage that claimants asked Mr. Hechtman to *assume* that there was *no hog* in the original construction.

Comment:

A. Miller's duties, as he testified, were to see to it generally that the fleet of ships being constructed "maintained the standards that were set down by the Classification Society". He was not inspecting each ship with the nicety of a Special Survey to determine a slight hog.

B. Even if the ship had a small hog, not affecting her seaworthiness, she would still meet the required standards, and he would not have noted it.

- C. A ship might well have a small hog in her original construction which would not be observable at all on the launching ways—yet might show up later, when the ship's keel *rested on the keel blocks* of a dry-dock.
- D. Finally, Miller never testified that there was no hog in the original construction. He said he did not “note” any. (Because there was none.) He did not “think” there was any. But if it *had* been there, he would not have “noted” it, for the same reason the other surveyors did not, i.e., of no consequence.

We have surely said enough to demonstrate the falsity of the hypothesis.

But even if there *had* been a hog, it would not have affected the hull or deck of the ship. It would have been too slight. Mr. Hechtman himself admitted that the hog he had in mind might have been so small as to be imperceptible to the naked eye (Tr. 2596-97).

Captain Nordstrom commented that the survey report of the stranding damage is bottom damage only, not affecting the hull girder (Tr. 2875-76); and, referring to the fact that the ship came back under her own power, pointed out:

“Had the hull been buckled or distorted at all, he wouldn’t have been able to turn the engines over, let alone run full speed ahead, because the shaft alley goes through that area.” (Tr. 2876).

Mr. Hechtman’s testimony was entirely speculative, based upon “possibilities”.

He could not deny that a mere "dishing" of the ship's bottom might create the false impression of a hog (Tr. 2598-99); the hog he had in mind might be "so small that it would be difficult to see with the naked eye" (Tr. 2596). It might not be "perceptible" (Tr. 2597); it was "quite possible" that less than 50 feet of the ship "could have been deformed" (Tr. 2367). These are merely some examples of the speculative character of his testimony.

Asked whether the crack in the deck between Frames 72 and 74, was evidence of the hog or caused by the hog, he testified:—

"A. It could be evidence of the hog and could be caused by the hog.

Q. In your opinion was it?

A. In my opinion it could be, yes.

Q. Yes. That is not an answer. In your opinion was it caused by the hog?

A. I think I would like to stand by the answer that it could be.

Q. That is as far as you can go?

A. That is as far as I can honestly go." (Tr. 2603).

Having testified that damage forward at Frames 54 and 58 could set up stresses as far back as Frames 93 and 94, 85 feet away, this testimony occurred:

"Well, is it your opinion that that was the fact, or is it a mere possibility?

A. It is my opinion that it could have occurred.

Q. It could be?

A. That is right.

Q. With the emphasis on the 'could'?

A. That is right." (Tr. 2611-12).

Asked whether little cracks at the padeyes in a ves-

sel's deck are not normal (as later testified by D. P. Brown, Captain Nordstrom and others), he said,—“I am not qualified to judge what is the normal use of the vessel” (Tr. 2602). At one point he abandoned all of his prior reasons and said that the fact that the PENNSYLVANIA had sustained two Class I casualties (i.e., two large cracks, the last on the fatal voyage) was the *only* reason that he thought her damage was unusual (Tr. 2605). His counsel tried to straighten him out on this on re-direct, but in vain. This is what occurred:

“Your statement of unusual damage to the PENNSYLVANIA, was that predicated solely upon the fact that this vessel sustained two Class 1 casualties?”

A. That is correct.” (Tr. 2616).

This speculative character of his testimony is illustrated by his own summing up, when asked by his counsel whether it was his opinion that the ship was sound. He said that he had a “feeling” that there was a “possibility” that the ship went to sea with unrepaired cracks in her deck, and therefore he would have “doubts” as to her soundness.” (Tr. 2587).

This, in the face of the testimony that every little deck-crack wherever discovered on close inspection was repaired (Exhs. 12, 12A, Tr. 164-167, Exh. 32, Tr. 404-5, Exh. 52, Tr. 617-619, 622-623); in the face of the testimony of Mr. D. P. Brown, Captain Nordstrom, Mr. Vallet and others, that such little cracks on the deck are normal, are peculiarly local and induced by the strains put on the deck at padeyes by cargo gear handling heavy lifts, are not evidence of notch sensitivity or brittle frac-

ture, but, on the contrary, by not propagating, indicate tough steel and do not affect seaworthiness in any way (Tr. 2744-45, 2885-86).

After Mr. Hechtman had testified, petitioner called in rebuttal Mr. D. P. Brown and Captain Nordstrom. Since the value of a witness' testimony is largely in proportion to his qualifications, we will speak briefly of these men.

Mr. Brown, after graduating from the Massachusetts Institute of Technology in Naval Architecture and Marine Engineering, and also from Harvard University, went to sea for a time for practical experience, and joined the staff of the American Bureau of Shipping in 1922. He left to gain practical experience in shipyards and returned to the Bureau in 1926. In 1932 he was placed in charge of the hull technical work of the Bureau, later became vice-president and chief surveyor, and in 1952 was elected Senior Vice-President and Technical Manager. He is the senior technical officer of the American Bureau and as such is a member of the Ship Structure Committee, so often mentioned in the testimony, appointed by the Secretary of the Treasury, and is probably the most eminent man in the United States on the subject of welded ships and their construction (Tr. 2728-29, 2733, 210). He has an international reputation.

Captain Nordstrom has had from thirty-eight to forty years' experience at designing, construction and repairs. He was with the well-known Skinner & Eddy Shipyards in Seattle, taking part in the designing of seventy-six ships. He became an independent consulting

naval architect in 1928, rebuilt vessels for the Navy at Todd Shipyards at Seattle, was promoted to captain of the Navy in 1945, was in charge of repair of ships' battle damage in Seattle during the war, and has other qualifications too numerous to mention (Tr. 2849-65).

It would be tedious to review in detail the testimony of these men, and it would be laboring the point too much. It is perhaps enough to say that they refute Mr. Hechtman's testimony entirely. Mr. Brown said there was nothing in the history of the PENNSYLVANIA to indicate any weakness (Tr. 2746); that the little deck cracks around the padeyes (they were all repaired) are not unusual (Tr. 2745) and really indicate tough steel since they did not propagate (Tr. 2744); that the surveyor's report of the small hog is of no significance (Tr. 2748); that sometimes such an appearance of a slight hog is a result of an illusion from the way the ship sits on the blocks (Tr. 2748-49); that it is inconceivable that other surveyors did not report any hog (Tr. 2749). (Remember he is the boss of all these surveyors); that the damage to the PENNSYLVANIA, as shown by her history, was not unusual; that the 22-foot deck crack would be no indication of notch sensitivity in the ship (Tr. 2743); that it would have no effect whatever in producing the subsequent crack between frames 93 and 94 (Tr. 2803-04); that even if Mr. Hechtman's hog were all true, it would not affect the ship (Tr. 2810); that the fact that the ship suffered two major cracks is of no significance, considering the circumstances under which they occurred (Tr. 2771).

Captain Nordstrom's testimony is generally to the same effect; that the little deck cracks are a common phenomenon that occur from local stiffness of the material, due to the padeyes' presence and the loads applied to them (Tr. 2885-86); that they are common to all ships and are not part of the overall stress pattern of the hull (Tr. 2886); not propagating indicates tough steel (Tr. 2886); from his examination of all A.B.S. Reports in claimants' Exh. 147, it was his opinion that the PENNSYLVANIA was not permanently damaged anywhere (Tr. 2881-82); that no hog in any proper sense was ever present (Tr. 2883); that the crack in the deck relieved the stress at that point, due to heavy weather at sea (Tr. 2922). Significant of the toughness of the steel is the fact that the crack stopped. "The ship did not break in two" (Tr. 2923).

We will not review Mr. Vallet's testimony, but it was of the same general tenor.

We feel we have perhaps labored this matter too much. It is only because claimants have relied so strongly on Mr. Hechtman that we have discussed it at all. The Court apparently paid no attention to his theory. And perhaps we should have done the same.

Further Discussion of the Trial Court's "Contributory Factors" of Unseaworthiness— Findings IV and V

Having proved the ship's general seaworthiness; having shown the fallacy of the Court's reasoning that because other ships survived the storm and the PENN-

SYLVANIA did not, she must have been unseaworthy; having disposed of "crack sensitivity", we now come to the other "contributing factors of unseaworthiness" found by the Court as having culminated from the ship's unseaworthiness at the inception of the voyage—without, we again remind this Court, saying *what* the unseaworthiness was. You cannot *infer* unseaworthiness because steering gear fails, deck cargo comes adrift, or hatches are torn loose or stove in in the worst storm in thirty years. There must be some proof. There was none.

Besides the 14-foot crack, the other "contributing factors" mentioned by the Court are these:

Sea water entering the engineroom.

Failure of steering gear.

Taking water in No. 1 hold.

Deck cargo coming adrift. Taking tarpaulins off forward hatches.

No. 2 hatch open and full of water.

(Findings IV and V)

Although none of these is proof of unseaworthiness at the inception of the voyage, considering the storm, we shall, since they are thus obliquely in the Findings, discuss them. The discussion will be in the order named First, then, as to:

SEA WATER ENTERING THE ENGINEROOM

Not much need be said on this since it is but a corollary of the 14-foot crack, which we have already dis-

cussed. If that crack, especially considering the storm, is no proof of unseaworthiness at the inception of the voyage, then a mere consequence of the crack, like this water, is not unseaworthiness either.

It is enough to add that the water entering the engineroom never gave any trouble, as indeed is readily understandable since the crack was only a *crack* terminating in a hair-line, where it stopped only four feet below the water-line (Tr. 221).

To put this beyond doubt, the radiograms themselves say of this water:

“CAN HANDLE WITH PUMPS IF SITUATION DOES NOT BECOME WORSE” (Exh. 127)

and later—

“PUMPS HOLDING IN ENGINEROOM” (Exh. 127)

and never do say the engineroom was flooded, or in trouble.

(An attempt was made by counsel to prove by the “Queen Victory’s” radio log that the engineroom was *flooded*. This, however, was pure hearsay, and was objected to (Tr. 1709). It was mere radio gossip between her operator and some other ship, garbling the PENNSYLVANIA’s real broadcast that she was “taking water in engineroom.” How could she be “*pumping* all oil” if her engineroom was flooded? And why do none of her own messages say it was flooded?)

Next as a “contributing factor”

FAILURE OF STEERING GEAR

If the Court's "contributing factor" "culminating", etc., means that the steering gear was itself unseaworthy at the inception of the voyage, it is clearly erroneous. It is *without any proof whatever*.

The only evidence we have of steering gear "failure" is in the radiograms themselves. Of course this Court is just as able to interpret them as the trial court. Being a written record, there is no presumption in favor of the trial court's findings.

The first radiogram suggesting any steering difficulty is the 7th in the sequence previously listed. It was sent some hours after the 1st, and was as follows:

"091730Z GMT 51.09 N 141.31 W ENDEAVOR-
ING TO STEER COURSE OF 110 DEGREES
CAN'T STEER AT PRESENT TAKING WATER
NR ONE HOLD AND ENGINE ROOM" (Exh.
127)

In this message the designation of his course as 110 degrees shows that he had carried out his previously expressed intention of turning around and heading back to Seattle. The very fact that he was able to execute that turn in those dangerous seas is itself proof of the seaworthiness of his steering gear. It is also quite probable that he damaged it during that turn. The statement that he is "endeavoring to steer course of 110 degrees" certainly implies that he had some method of steering and was using it. This being so, the further "can't steer at present" cannot mean that he could not steer at all, but only that he was having difficulty holding that course, either because of having to resort to hand steering gear,

or because of the tremendous seas—just as Captain Maeda and Captain McMunagle couldn't steer the desired course either.

The next pertinent message is No. 9 in the sequence previously listed. This message, sent almost an hour later, stating "down by head, cannot steer . . . if we cannot fix steering gear will require assistance", means that his steering is handicapped by his ship being down by the head and by some failure in his regular gear; but does not mean, any more than the first message did, that he could not steer at all, by use of his hand steering gear. This is confirmed in the later message, picked up by the "Cygnet III" at 2015Z, that he actually was "using hand steering" (11th radiogram in the sequence previously listed).

Finally there is the still later message (12th and 16th in the sequence listed) that he "has got steering gear fixed" but that he couldn't steer as the rudder was too far out of water (by the ship being down by the head).

A fair interpretation of the messages therefore is that he had some undefined trouble with the steering gear, not very serious, since he got it fixed, and that meanwhile he used his hand steering gear but couldn't steer accurately, with the ship so far down by the head and the seas so high.

Thus, there is no justification for the finding submitted by Government counsel, and adopted by the Court, that the ship was "completely unable to steer by any method in heavy seas".

But even if you put this worst possible construction on the radiograms, it would be no proof of unseaworthiness of the steering gear. Many a ship has had her steering gear disabled in great storms.

"February 21. Vessel shipped huge sea, breaking cargo adrift and jamming steering gear." Log entry of The Newport News, 199 F. at page 970.

Steering chains parted in heavy weather. The Floridian, 83 F. (2d) at page 950. The books are full of such instances.

The best proof of the seaworthiness of the steering gear is the following:

1. Its use for a year across the Pacific and back on 5 voyages, with no failures of any kind, as proved by the log books for those voyages (Exhs. 40-44).

2. These log books show 65 tests of the steering gear, including the emergency gear.

3. The steering engine was inspected on each watch (6 times a day) by the oilers, and the whole steering apparatus by Chief Engineer Matthews each day, on these 5 voyages (Tr. 350-51).

4. After loading the barley at Vancouver, B. C. the vessel navigated the tortuous, winding, narrow channels of the inland waters of British Columbia and Puget Sound to Seattle,—a sure test of the steering gear.

5. On the trip from Seattle to the Pilot Station—67 miles—Pilot Lovejoy testified the ship handled perfectly.

6. She went through the heavy weather of Storm No. 1 with no difficulty.

7. She battled Storm No. 2 from January 8th until mid-morning of the 9th, *with no trouble in steering*.

8. She executed the most dangerous maneuver a ship can attempt, when she actually turned around in the vicious seas to return to Seattle. It was not until after that turn, that she first reported steering difficulty.

All these pragmatic tests recall Judge Fee's remark in *The Iowa*:

"The ship at times had had failures in the Benson telemotor steering gear, but had traveled many thousand miles thereafter and prior to her final voyage, at which time it was held the gear was in good order and condition and the ship seaworthy in that respect." *The Iowa*, 34 Fed. Supp. 843, 846.

In addition to the foregoing, all of the PENNSYLVANIA's steering gear was thoroughly inspected and tested at her annual inspection in August, 1951, by Commander Hamilton and Lt. Rojeski of the U. S. Coast Guard and by the Chief Officer and Chief Engineer Matthews (Exh. 53 and 55; Tr. 658-62, 708-09. 494). The detailed test inspections were described by Commander Hamilton. These careful and experienced men all found the steering engine and all steering gear, including the emergency hand-steering gear, in good condition.

Mr. Miller, A.B.S. Surveyor, also examined the steering gear at this time. He testified:

"I examined the steering arrangements, which consisted of the telemotor, hydraulic pumps and the

drive motors; emergency gear, and found them in a satisfactory condition . . ." (Tr. 411-12; Exh. 33).

The steering engine was again later examined by Mr. Vallet, mechanics from the Albina Engine & Machine Works and by Coast Guard Inspectors in Portland in November, 1951. At that time it was found that the extension control rod of the emergency hand steering gear extending from the poop deck down to the steering engine below turned hard. It passed through a cargo compartment and it was found that some army clothing had wrapped around the rod, making it hard to turn. It was still possible to operate it, but it was hard. This was removed and then everything was in order. At this time not only Mr. Vallet and the Albina people, but the Coast Guard Inspectors, passed the steering gear as satisfactory (Tr. 168-69). It is no moment anyway, because the rod was only for use in using the emergency hand-gear while the operator was standing on the poop in fair weather. It could be equally operated below by an operator in the steering engine-room itself, which, of course, would be the proper place in heavy seas (Tr. 372-73, 376-77). And we know from the radiograms that the hand steering gear actually was used.

The PENNSYLVANIA's log book for voyage 5, (Exh. 44) contains several entries concerning the testing of this emergency gear aft, the last one being as late as December 13th, 1951, as follows:

"From Moji Thursday, December 13, 1951
To Vancouver, B. C.
1620 Turned emergency wheel over Hard Right &
Hard Left. All in Order. G. E. Elliott"

To sum up then this matter of the steering gear:

1. If the Court's Findings IV and V mean that one of the "faults, failures, breakdowns and defects" was failure of the steering gear and that such failure constituted unseaworthiness, there is no proof of it.

2. The temporary failure of steering gear in such a storm as the PENNSYLVANIA was encountering is not proof. It is even less so if it occurred, as seems likely, during the dangerous turning movement when, as Captain McMunagle has said, anything can happen. The situation is not unlike that in *The Floridian*, where, in heavy seas, her steering chains parted and her hand-steering gear was smashed. The Court said:

" . . . From the mere breakage there is no evidence indicating negligence of the appellant to deprive it of the exceptions of the bills of lading. If competent men considered the vessel seaworthy, after an inspection, with full knowledge of repairs made, it indicated that due diligence had been used in preparation for the expectable tests and strains of her voyage, and the vessel owner was justified in believing her fit for the voyage. Any damages to the vessel later must be regarded, particularly in heavy seas, as resulting without fault on the part of the owner." *The Floridian*, 1936 A.M.C. 1006, 1009 (C.C.A. 2nd Circuit).

3. The seaworthiness of the steering gear is proven by the pragmatic test of use and by the many inspections and tests made by competent men.

4. The question at issue is not what happened out in the storm. It is *unseaworthiness at the inception of the voyage*.

5. The burden of proof is on the cargo claimants. They must prove not mere failure, but *in what respect* was the steering gear unseaworthy. Neither they nor the Court have suggested it.

6 How can they sustain this burden in the face of the pragmatic test of use, the many inspection-tests and the testimony of every man who ever examined the gear? The reliance rightly placed by the courts on such tests is illustrated by Judge Fee's statement in *The Iowa*:

"Complaint was made of the engine and engineroom equipment. But this was all inspected, passed and approved by the Bureau of Marine Inspection and Navigation, and engineers who had operated the engines testified everything was in good and sufficient working order." *The Iowa*, 34 F. Supp. 843, 846.

7. We repeat, in the face of all this evidence, how can the cargo claimants sustain their burden of proof? There is nothing in the radiograms to help them.

The next "contributing factor" is

TAKING WATER IN NO. 1 HOLD

Like all the other "factors", this is stated to have "culminated from the unseaworthy condition of the vessel at the inception of her voyage"—without a hint of what that alleged unseaworthiness was.

Nor is there in the evidence any information at all as to *how* or *why* water got into No. 1 Hold. All that we have is the radiogram "TAKING WATER NR ONE HOLD". This was before the later messages saying tarpaulins were being taken off hatches, so it seems that

was not the cause and the cause was a mystery to the ship's master himself. For in his next message he says that he cannot "GET FORWAD TO SEE WHERE TROUBLE IS".

Now it is obvious that the mere taking of water in a hold is no evidence of unseaworthiness. It might come, as here, from the violence of the seas. Or it might come from some act of the master or crew after the ship left port, in the navigation or management of the ship, and having nothing to do with seaworthiness. Certainly it is no proof of unseaworthiness at the inception of the voyage, especially when every man who ever examined the ship testified that she was at all times a good, sound, seaworthy ship. It must always be kept in mind that the burden of proof is on the cargo to prove unseaworthiness. They have got to point out with particularity what the unseaworthiness was. This, of course, they have failed to do. The obvious cause was the violence of the seas.

The next "contributing factor" is

**DECK CARGO COMING ADRIFT AND TAKING
TARPAULINS OFF FORWARD HATCHES**

This is the next thing, excerpted from the radiograms, and listed by the Court as among the "faults, failures, breakdowns and defects", constituting "factors of unseaworthiness", contributing to the vessel's sinking, and "culminating from the unseaworthy condition of the vessel at the inception of her voyage". Findings IV and V.

Here again the Court does not say what that unseaworthy condition was. He does not point out any defect

or failure in the securing of the cargo. He does not mention any cause why it came adrift. He does not even say which cargo came adrift, as indeed he could not, since the only information we have is from the radio-grams, and they do not tell us. We do not know whether it was some of the 18 small 2-wheel trailers stowed by No. 2 and No. 3 hatches, or the "label" cargo stowed in the cribs by the break of the forecastle head. It seems obvious that before any attempt is made to establish liability on this score, we have to know which cargo came adrift and what the defect was, if any, which caused it. We have no information on that, and since the cargo claimants have the burden, they must fail.

Of course the mere fact that it came adrift is no proof at all, especially in the worst storm in thirty years. Deck cargos frequently come adrift. That is one reason why they are always carried, as this one was, at "shipper's risk".

The vague generality of the finding, amounting to no more than a conclusion, makes it rather difficult to discuss. But guided by what went on at the trial, we shall try.

All the cargo in the ship, including the deck cargo, was loaded, stowed, lashed and secured by the Government itself (the Army), the largest claimant here; (and one of the insurance companies is merely one of its subrogees and stands in its shoes.) This was done pursuant to the Government's amended contract of carriage with petitioner. M.S.T.-60, Exh. 132B. This provided as follows:

"ARTICLE 5. CARGO-LOADING AND DISCHARGING

" . . .

"(b) The loading and discharging of cargo will be performed or arranged for by the Government. The Government shall prosecute and complete loading and discharging with reasonable dispatch. The cargo shall be efficiently loaded in the vessel using no more space than would normally be required for the loading of like cargo, but the Contractor shall at all times provide acceptable space for the loading of cargo shipping under this contract. 'Acceptable space' as used in this paragraph means such space as would normally be used by that particular type of cargo as declared at the time of booking and including normal access thereto. . . . Failure to provide acceptable space properly prepared for receipt of cargo would give the Government the right either to reject the space offered or upon agreement with Contractor to have the space properly prepared at the expense of the Contractor. . . .

" . . .

"(h) Cargo shall be loaded, stowed, trimmed and secured by the Government under the supervision and to the satisfaction of the Master.

" . . .

"(1) In no case shall the cargo exceed what the vessel can reasonably stow and carry, in the judgment of the Master. The amount of the deck cargo shall be at the discretion of the Master and the loading (when performed by the Government or its Agents) and carriage thereof shall be at the risk of the Government. Any material required for securing deck cargo is to be furnished by the Government and for its account, but the Government may have the use of any such material available aboard the vessel."

The deck cargo was a small one, about 67 long tons. No question has been made by cargo claimants regard-

ing the stowage and security of the 18 small 2-wheel trailers, nor of the two 7-ton trucks. The attack has centered on a shipment of some mild acid in some carboys and some acetylene tanks carried on the forward deck by the break of the forecastle head. Therefore we confine ourselves to that. This cargo is known as "label" cargo. Under the Stowage Regulations of the U. S. Coast Guard, it is not permitted to carry this below decks. It must be stowed on deck. The Army needed it in Japan, and it was stowed on the only place allowed,—on deck. The usual practice is to build a box or crib of heavy timbers, securely lashed, and to stow the label cargo in that. Such was the procedure in this case. Two such cribs were built, one on each side of the No. 2 hatch, extending from the hatch coaming to the bulwark rail of the ship, leaving just enough space for men to work there if necessary, and from the break of the forecastle head, aft to about two-thirds of the length of No. 2 hatch.

These cribs or boxes were strongly built and securely lashed with three-quarter inch chains extending athwartships over their tops and sides and with a chain "belly-band" to prevent it shifting aft from the break of the forecastle head. The "label" cargo was tightly stowed in them.

These cribs were not high. They extended only four and one-half to five feet above the deck, or a foot to one and a half feet above the ship's bulwarks, at their lowest part (Tr. 992-1002, Exhs. 17, 18 and 19; Tr. 1075-82, 1138-39, 1185-87, 1197-98, 1734-35, 2682-2690, Exh. 187).

As stated, the work was all done by the Government's own stevedores. Sam Kamel, a lashing foreman of experience, was in direct charge and testified that the Army demands extra strength and heavier timbers than is usual in commercial practice, and in this case those demands were met. He concluded his testimony by saying that the ship was well and properly stowed and secured for sea (Tr. 1063). The chains were furnished by the Army itself. Exhs. 81 and 132B.

A. L. Hughes, a supercargo employed out of the Union Hall by various companies, but in this instance by petitioner, described the cribs, the label cargo tightly stowed, the lashings good, said he had seen lots of these cribs and this was as good as any he ever saw (Tr. 1139-40, 1152).

Captain R. A. Johnson, master mariner with much sea experience and acting at this time as surveyor for the National Cargo Bureau, said that he was on the ship as late as January 4th 3:00 P.M., and "that there was no special problem in regards to the deck load" (Tr. 1734).

Captain A. B. Johnson (no relation), surveyor for the San Francisco Board of Marine Underwriters, with seventeen years' experience at sea as master, described the cribs. He, who was on the ship as late as the morning she sailed, and whose "primary interest was to check the securing of it" (the deck load) (Tr. 1214), approved it all (Tr. 1198-99, 1214).

The functions of these two cargo surveyors entitle their testimony to special weight. For, as Captain R. A.

Johnson said, those functions are "To promote safety at sea for cargo, vessel and crew in relation to the stowage or cargo" (Tr. 1729).

F. G. Allison, supercargo of long experience, who has worked often for the Army, but in this instance was acting for the petitioner, likewise described the cribs and approved them throughout (Tr. 1081, 1109).

Finally, and most important because he was the Government's (Army's) own supercargo, Captain Sheldrup described the cribs and their lashings and the stowage of the cargo and said that they were good and he approved them all (Tr. 2697).

The main attack, however, of cargo claimants has been not so much on the cribs nor their construction as on their *location*. They claim that they should have been located aft of the midship house by No. 4 hatch, instead of up forward, by Nos. 2 and 3.

All of the witnesses concerned with this, Captain R. A. Johnson, Captain A. B. Johnson, Captain Sheldrup,—all three past-shipmasters experienced in carrying deck cargos,—fully approved the forward location (Tr. 1734, 1198-99, 2690, 2697).

Indeed, the two men most concerned, Captain Plover, the master of the ship, and Captain Sheldrup, supercargo for the Army, owner of the cargo, discussed the matter and expressly designated and approved the forward location, and gave the reasons therefor (Tr. 2686-90, 2697, 2716-17).

Remember that Captain Sheldrup was an experienced shipmaster himself, and the Government's own man;

and that Captain Plover was the man responsible for the safety of his ship, cargo and the lives of himself and crew. Captain Plover himself requested the forward location (Tr. 1153, 2716-17). The reason for that request was that he considered it a better and drier place than the location aft, where, indeed, he had had trouble with acid cargo shifting on a previous voyage. His log book for Voyage 4, under date of August 24th, contains the entry:

"Shipped over starboard after deck tearing acid cargo box adrift and damaging forward starboard No. 4 boom rest; cargo shifting."

He knew his own ship, and he told Sheldrup: "This ship is very good by No. 2 hatch where the break—by No. 2 hatch by the break of the forecandle head. That is where we want it." (Tr. 2716-17). He exercised his discretion as a master, and that is where it was put.

In addition to all of these men who actually saw the cargo stowed, and whose duty it was to see that it was put in a good place, we have the corroborative evidence of Captain Reid of the "SHOOTING STAR", a disinterested third-party witness. It was not petitioner, it was claimants' counsel, who elicited this testimony from him:

"Q. Have you ever carried acid?

A. Yes.

Q. In what form?

A. In a carboy, yes.

Q. Where did you carry it?

A. On deck.

Q. Where on deck?

A. Well, sometimes between 4 and 5, sometimes at the break of the house by No. 2.

Q. That would be just forward of the house?

A. That is just referring to the "Shooting Star"?

Q. No.

A. You are referring to general?

Q. Yes.

A. *I know, on the Victories we used to carry it on the break of the house. Break of your forecastle head just forward of No. 2 or alongside No. 2, or back at No. 5.*" (Italics supplied) (Tr. 1836).

To contradict all this mass of evidence, claimants produced only one witness, Mr. Gilmour. He testified that in his "opinion" the vessel was not seaworthy for a voyage across the North Pacific with acid stowed forward by the No. 2 hatch (Tr. 2339). This, of course, was only an opinion and its value must be judged by the witness's qualifications. He did not have them, and he testified over objection. He has been to sea only in the engine department and rose to chief engineer. He came ashore and was port engineer for Pacific Steamship Company until 1936, and until 1938 for the Alaska Steamship Company (Tr. 2269). He has never been a deck officer in his life, and it is deck officers and not engineers who handle and stow cargo. His only acquaintance with "label" cargo was that, while port engineer, he instructed his port carpenters to build boxes for it on deck for the Pacific Steamship Company (Tr. 2278), where the *location* would be decided, not by him, but by the mate or master (Tr. 2303). Furthermore, it is well known that Pacific Steamship Company was engaged only in the coastwise trade, largely to Alaska's inland waters, and with small ships. The qualification of small ships is important because, as Captain Sheldrup says, on *small* ships he too would carry the acid aft. But this does not apply to large ships like Victories. Mr. Gilmour has

never made a voyage as chief engineer across the North Pacific (Tr. 2315); nor on a Victory ship; nor on a Liberty ship. In short, he has never had any experience at all with carrying acid cargos across the North Pacific in cribs or otherwise. After he ceased being port engineer for the Alaska Steamship Company, he became a hull and machinery surveyor for Alexander Gow in Seattle. As such, he is competent, but cargo surveying is entirely out of his line. As he said himself, referring to hull and machinery, "That part of the business keeps me pretty busy", and he only does cargo-surveying "once in a while" when the other men of his organization are busy (Tr. 2309). He has acted only once as cargo surveyor for a vessel bound for the Orient, and that ship carried no "label" cargo (Tr. 2279). In short, Mr. Gilmour has no qualifications to warrant his opinion being accepted as against the testimony of the many competent men, ex-sea-captains and surveyors, who actually saw this cargo loaded and approved it all, including Captain Sheldrup, the Government's own man,—and Captain Plover.

We pass over the testimony of Captains Ulstad, and Harry Johnson, and Mr. Maurice, for their qualifications were of the slightest, and they did not condemn the stowage forward as unseaworthy. They merely expressed a preference for after-deck stowage. But that, of course, is a choice which must be left to the master.

Mr. Gilmour also had some criticism, which he did not press very strongly, that the cribs would have been "better" if they had been "parallel" (by which he meant exactly rectangular) instead of "tapered" as they slightly were, since the outboard side of each crib more or less

followed the sheer of the ship (Tr. 2281, corrected Tr. 2387). His reason was that the carboys could be blocked off better in a "parallel box" (Tr. 2280).

Of course, the testimony was that they were blocked off and that it was a tight stow (Tr. 994, 1078, 1140). Also, a glance at Exhibit No. 17, which is a photograph of this part of a Victory ship will show how slight any taper would be, only a foot or two in the whole length of the crib (Tr. 1035-36). He did not say that the taper would make the crib unseaworthy. He merely expressed a preference for a rectangular crib being "better". None of the other many witnesses already named agreed with him. So we say no more about it.

Finally, we come to a matter which, it seems to us, is conclusive:

Article 5 of MST-60, already quoted, says that the contractor (the petitioner here) shall provide "acceptable space" for loading the cargo. It then defines "acceptable space" as "such space as would normally be used by that particular type of cargo". "Failure to provide acceptable space" gives "the Government the right to reject the space offered" (Exh. 132B).

The Government did not reject the space in this instance. It accepted it. This was an acknowledgement on its part that it was "acceptable space" and such as "would normally be used by that particular type of cargo". This, therefore, is conclusive proof that the place where the crib was built, forward by No. 2 hatch, and the structure and shape of the crib itself were "such as would *normally* be used" and is an admission of the seaworthi-

ness of the crib and its location. "The shipper bargains for no more than usual carriage". The Pacific Fir, 57 F (2d) 965, 967.

Furthermore the "loading" and "carriage" of this deck cargo were "at the risk of the Government" M.S.T.-60, Article 5(1). Exh. 132B.

SECURITY OF THE HATCHES

The Court's finding that the deck cargo came adrift taking the tarpaulins off the forward hatches does not find any fault with the hatches or the manner in which they were secured. He attributes the taking off entirely to the deck cargo coming adrift,—very natural in such a storm. The Court was correct. The radiograms themselves assign that as the cause, and we agree with them and the Court. Since he ascribes no fault to the hatches or the tarpaulins, perhaps we should let the matter rest here.

We note briefly, however, some testimony adduced by the claimants that the cross-battens across the hatches on *Voyage 5* were bent. The testimony was of the weakest, coming, as it did, from two ordinary seamen (a cab driver (Tr. 2093), and a car salesman (Tr. 2097)) and an old ship's carpenter, and was irrelevant anyway, since it pertained only to *Voyage 5* and it is *Voyage 6* with which we are concerned. Furthermore, these witnesses admitted that in spite of any "bending", they were able at all times, by screwing up the turnbuckles, to keep the cross-battens tight across the hatches; which, of course, is all that is required (Tr. 2096, 2102-3, 2086-87).

The truth is that the bend which these witnesses were talking about was probably the natural, intentional, slight curve or spring, present in all cross-battens to facilitate their being tightened up with the turn-buckles, and which may readily be seen in the photograph of a hatch (Exh. 19).

It may be noted too that the ship was equipped with cables which could have been used as substitutes for cross-battens or as supplemental thereto had the master so chosen (Tr. 306, 1230).

In passing, we observe that it is only Nos. 1 and 2 Hatches that are in question. No. 3 Hatch was never mentioned in the radiograms at all. Also it is difficult to see how drifting cargo could take tarpaulins off No. 1 Hatch, since that hatch was up on the higher forecastle deck where there was no cargo.

But regardless of all this, the testimony of all the witnesses who were on the ship at the *beginning of Voyage 6*, just before she sailed, and whose responsibility it was to know something about these hatches, is that the hatches were battened down in good shape, with three tarpaulins each (where only two are required), and with all the battens and cross-battens good. Allison (Tr. 1091-94), Capt. A. B. Johnson (Tr. 1188, 1208). We especially note supercargo Capt. Sheldrup because he was the Government's own man. He was right at No. 1 Hatch when they opened it and rebattened it, and was right at No. 2 Hatch after it had been battened, and while they were lashing the acid cribs, and he observed nothing wrong with the cross-battens at all (Tr. 2694-97).

Although the other hatches are not involved, he testified they were all battened securely (Tr. 2697).

It can hardly escape attention that although the ship was swarming with longshoremen and army personnel, the Government, the largest claimant here, did not call a single witness from these, its own people, to refute the above testimony.

Although an earlier radiogram from the ship, ninth in the sequence listed, said the deckload was "taking" the tarpaulins off the forward hatches, a later radiogram, eleventh in the sequence listed, says,—“TARPS FWD HATCHES STILL HOLDING”.

The fact that they were still holding, this late in the storm, in spite of the many hours battering of the seas, is the surest indication that the hatches and cross-battens in general were very good.

The trial court evidently thought so too, and we'll let it go at that.

We hope we have not labored these matters too much. The essence of it all is that there is no proof that the vessel at the inception of her voyage was unseaworthy in respect to her deckload, or the security of her hatches. The meager facts gleaned from the radiograms are certainly not evidence of unseaworthiness, considering the violence of the storm the ship was in. While the deck cargo coming adrift taking the tarpaulins off the hatches is grouped by the trial court, along with other matters, as a contributing factor of unseaworthiness culminating from unseaworthiness at the inception of the voyage, he nowhere says *what* that unseaworthiness

was,—nowhere says the deck cargo was improperly stowed or secured, nowhere finds fault with the tarpaulins or their battens or the hatches. He really could not. For there was no proof. And the burden was on the cargo claimants.

The next “contributing factor” is

NO. 2 HATCH OPEN AND FULL OF WATER

This is the last of the “contributing factors” listed by the Court as one of the “faults, failures, breakdowns and defects” “culminating from the unseaworthy condition of the vessel at the inception of her voyage”.

We do not feel like spending many words on this. With the deckload taking the tarpaulins off the hatch, thus admitting water, with the ship down by the head, making it easier than ever for the tremendous seas to come aboard and pound this hatch, it is no wonder that the hatch covers were torn off or smashed. This is not evidence of unseaworthiness.

“Nautical periodicals contain repeated accounts of the damage done even to well-found ships, steam as well as sail, by the masses of water that may fall on board when such seas break; of decks swept clean of boats and houses, of bulwarks carried away, *and of hatches stove in by the mere weight of water.* Many a ship has been lost with all hands under such circumstances.”

Quotation from “Wind Waves at Sea, Breakers and Surf”, Navy Department Hydrographic Office Publication No. 602, at page 51 (Exh. 129). And, as Captain McMunagle testified, in seas like that anything can happen (Tr. 2009).

Indeed it was cargo claimants' counsel himself, Mr. Gearin, who brought this out in his cross-examination of Mr. Vallet:

"Q. Sometimes a sea itself will tear tarps loose, won't it?

A. Yes.

Q. Sometimes the hatches will be stove in because of the water? I am referring particularly to the forward hatches.

A. In extremely bad weather, yes." (Tr. 234).

And again:

"Q. Just a few more questions and I can be through by 12:00 o'clock, Mr. Vallet. Would you say when you get into violent seas that a sea could hit the side of a hatch and tear the tarps off and rip the battens off?

A. That has happened, yes." (Tr. 236).

As already remarked the trial court has not pointed out a single item wherein the hatches or their covers were unseaworthy; or why the No. 2 hatch was open and full of water. He has merely made a generalization that the ship was unseaworthy at the inception of her voyage. Certainly, with the burden of proof on the cargo claimants to prove unseaworthiness, this Court will not follow any such generalization as that, with no proof to support it.

LATENT DEFECTS AND DUE DILIGENCE

The Court erred in not finding that if there were any defects in the ship, they were latent and not discoverable by due diligence, and in not finding that petitioner had exercised due diligence to make the ship seaworthy. Specifications of Error III and V.

The questions of latent defect and due diligence are so closely related that we shall discuss them together.

SUMMARY

If the loss was caused by any defects in the ship, (which we do not admit), they were latent and not discoverable by due diligence, and on that ground petitioner should have been exonerated.

If the loss was caused by any unseaworthiness of the ship, of any kind, latent or not (which we do not admit), the petitioner should nevertheless have been exonerated because it proved that it used due diligence to make the ship seaworthy.

FIRST, AS TO LATENT DEFECTS—ARGUMENT

The Carriage of Goods by Sea Act, 1936, provides that the ship shall not be responsible for loss or damage arising or resulting from "latent defects not discoverable by due diligence",—Title 46 USCA § 1304(2)(p). The Canadian Act provides the same.

We do not concede that there were any latent defects in the PENNSYLVANIA, but if there were, and they caused the loss, petitioner is nevertheless entitled to exoneration under this exemption.

The trial judge, in his Memorandum Opinion, made findings on this point, which, if logically carried out, should have resulted in a decree of exoneration. He said in his Memorandum Opinion:

"Just what latent defects in hull or equipment were responsible for the disaster cannot be determined with certainty, although it can be gathered from

radiograms sent from the vessel that several contributing factors could have been responsible."

It seems clear from this language that whatever the "contributing factors" were, they resulted from "latent defects".

Further on in his Opinion he was even more specific.

He said:

"Upon an examination of the record I find that any defects in the vessel which caused her to sink were not apparent. Those charged with her inspection used the care of reasonable and prudent persons. . . ."

Here is a flat and specific finding that the defects, if any, in the vessel, "*which caused her to sink*", were not "*apparent*". And the finding is followed in the next sentence by the specific statement that those in charge of the vessel's inspection "used the care of reasonable and prudent persons", which, if language means anything, means due diligence.

Why the Court ignored these findings and gave no effect to them in his decree, we cannot explain. But it seems plain that in not doing so, he fell into an error which changed the whole aspect of the case. The failure to enter a decree in accordance with these findings was "clearly erroneous".

Opposing counsel may point to Article VI of the Findings, in which it is stated that the petitioner did not use the due diligence required by law to make the vessel seaworthy. This is a general finding, without any reference to latent defects. It is so contradictory to the findings in the Memorandum Opinion that we think it

should be given very little weight in this Appellate Court. Though adopted by the trial court, this finding was prepared by the Government counsel, and should not outweigh the findings in the Memorandum Opinion which, presumably after mature consideration, were the Court's own. The Court never recalled, or amended his Memorandum Opinion. From which it must be inferred that he intended it to stand, as his own independent Findings.

If this be so, then there is an end of the matter, for the Opinion covers *all* the alleged defects, whatever they were, and says they were *latent*.

But regardless of this, the evidence itself justifies this defense against those alleged defects most insisted upon. We refer particularly to the "notch sensitivity" of the steel and the steering gear.

Take the steel. We shall not again refer to all the evidence that it was *not* notch sensitive, but was, on the contrary, good tough steel (Br. pp. 82-88, 97-99).

We confine ourselves now merely to showing that if it was notch sensitive, there was no way to find it out. There was not even any indication or warning to put the petitioner on notice. The 22-foot deck crack was no indication—fully explained by Mr. Vallet as it was (Tr. 211-215). Cf. Mr. D. P. Brown's testimony that it was of no significance (Tr. 2743). In fact its failure to propagate further indicated good steel (Tr. 2923)—a fact borne out by Mr. Williams' laboratory analysis (Tr. 1859, 1869, 1875, 1877-78). (It is worth noting that *many* ships have cracks, as witness Mr. Williams having received samples

from 114 ships (Tr. 1857-58), and Mr. Vallet's testimony that over a period of 12 or 14 years he had repaired hundreds of them (Tr. 262).

But more important still is the fact, admitted on all sides, that there is no way of determining notch sensitivity except in a laboratory,—no test except a “destructive” test, which means taking the steel plate to a laboratory and breaking it up. Also is the admitted fact that a ship's plate, found to be notch sensitive, is no indication that the plate next to it may be so (Tr. 1877). Nor is the fact that a ship may have repeated fractures, significant. It may result from other factors.

Thus, Mr. D. P. Brown testified:

“Q. Is there any known non-destructive test that can determine the notch sensitivity or strain-aging of steel?

A. None that I know of.

Q. Is there any test by which a shipowner experienced in craftsmanship could go over the rest of his ship to determine whether parts of the ship were subject to cracking?

A. There is no such means.” (Tr. 2746-47).

Elsewhere he testified:

“Q. Is there any way of telling that because a certain plate cracks in a ship that some other plate in the ship, even an adjacent plate, may be subject to cracking?

A. No, sir; I know of no method. I know of no correlation between a fracture in one plate and the quality of the next plate.” (Tr. 2741).

He also testified that even repeated fractures (which the PENNSYLVANIA had not), are not significant, and why (Tr. 2742-43), and that in spite of all the research

and all the money spent by the governmental agencies and his committee in studying the problem of brittle fracture, the problem has not been solved (Tr. 2810).

How then, it may be asked, could this petitioner solve it, even if we should concede that this ship presented such a problem?

Mr. Williams, the Government's expert, confirmed Mr. Brown.

He testified:

"Q. Do you know, Mr. Williams, that the test of a deck plate of a ship is no indication of the quality or strength or notch sensitivity of another plate on a different part of the ship?

A. That is perfectly true." (Tr. 1877).

And again:

"Q. Is there any known test of that character (non destructive)?

A. No, there is not.

Q. There is not. The only way you can determine the notch sensitivity of a piece of steel or steel plate is to take it apart and put it in the laboratory and test it; isn't that true?

A. That is true." (Tr. 1878-79).

He also agreed with Mr. Brown that the problem of notch sensitivity had not been solved (Tr. 1879).

Even Mr. Hechtman had to agree that the only possible tests were laboratory tests, and that he did not mean to say that it would be possible to go over the body of a 450-foot ship and determine whether any plate was stain-aged (Tr. 2613), and that the problem of brittle fractures has not been solved (Tr. 2591-92).

It is quite evident from the foregoing that if the ship was anywhere notch sensitive (and all the evidence points the other way), it was a latent defect, not discoverable by due diligence, for which the shipowner would not be liable. (46 USCA § 1304(2) (p), and the identical Canadian Act.)

As to the steering gear. Neither the Trial Court, nor anyone else has pointed out wherein it was defective. The Court's Opinion treats all the alleged defects as "latent" and this would include the steering gear. We deny any defects at all. Any failure was due to the storm. But if there were any defects, latent or not, they certainly were not discoverable by due diligence. We shall discuss the steering gear presently under that heading.

DUE DILIGENCE TO MAKE THE SHIP SEAWORTHY

The Court erred in holding that the petitioner had not sustained the burden of proving this. Finding VI.

This is the statute:

"Neither the carrier nor the ship shall be liable for loss or damage arising or resulting from unseaworthiness unless caused by want of due diligence on the part of the carrier to make the ship seaworthy, and to secure that the ship is properly manned, equipped, and supplied, and to make the holds, refrigerating and cool chambers, and all other parts of the ship in which goods are carried fit and safe for their reception, carriage, and preservation in accordance with the provisions of paragraph (1) of section 1303 of this title. Whenever loss or damage has resulted from unseaworthiness, the burden of proving the exercise of due diligence shall be on the carrier or other persons claiming exemption under this section." 46 USCA § 1304(1).

The Canadian Act is the same.

There is no question here about the ship being properly manned, equipped and supplied or making the holds safe for the carriage of goods; and the ship had no refrigerating chambers. The only questions pertain to the ship's hull and equipment and the question raised by the insurance cargo-claimants about the crib holding the label cargo. Therefore we confine ourselves to those questions. Observing, however, that much of the evidence already alluded to, to prove seaworthiness, applies equally to proof of due diligence, and will not be repeated.

First, as to the hull and equipment.

We do not see what more any shipowner could have done, more than this shipowner did, to exercise due diligence to make the ship seaworthy. It complied with every requirement of the American Bureau of Shipping and of the U. S. Coast Guard, those guardians of public safety at sea. In fact, it exceeded those requirements, as we shall show.

Let us begin with the condition survey at the time the ship was sold to petitioner. She was thoroughly reconditioned at that time and everybody,—the representative of the Government, Mr. Tucker, the American Bureau surveyor, Mr. Miller, the Coast Guard Inspector, Commander Rivard, the representative of the former charterer, Mr. Knowles, the representative of Salvage Association of London, Mr. Gilmour, the representatives of the purchaser, Mr. Vallet and Mr. Brennecke,—all agreed that she was seaworthy at that time.

(Exh. 2, 31, Tr. 748, 399, 613-14, 456, 2383, 144-45, 328).

We believe we can take that as an established fact.

The ship made three voyages, all satisfactory, and then had her annual inspection by the Coast Guard and the American Bureau in August, 1951. This was a very thorough inspection. The ship was gone over minutely, as the inspection books and the testimony of Commander Hamilton and Lt. Rojeski, and the report and testimony of American Bureau of Shipping surveyor, Miller, and the testimony of Mr. Vallet and Mr. Matthews and Captain Bishop, all show (Exh. 13, 33, 53, 55; Tr. 656-670, 676-680, 686-691, 699-722, 410-414, 170-172, 346-47, 494). It is interesting to note from the surveyor's report (Exh. 33), and the Coast Guard Inspector's Exhibits 53 and 55 that the steering gear was thoroughly tested and found good, and in Rojeski's book, Exhibit 55, the cross-battens are especially included in the equipment passed as satisfactory.

The ship made Voyage 4. On Voyage 5 the deck crack occurred. The ship returned to Portland, and there complete repairs were made by putting in new plates where necessary and veeing out and welding the crack where new plates were not necessary. This work was all done to the complete satisfaction of American Bureau surveyor, Pratt, Captain Endreson of the U. S. Coast Guard, Mr. Webb, representing Lloyds, and Captain Bennett, representing the U. S. Salvage Association, Mr. Sloan, Superintendent of Albina Yard, who did the work, and of course Mr. Vallet who was present in person. Mr. Vallet and these other men inspected both

above and below deck. The deck was hose-tested with water and the repair was found complete. (Exh. 10, 11, Tr. 162-68, 177; Exh. 66, Tr. 897; Exh. 63, 64 and 65; Tr. 872-76; Exhibit 84; Tr. 1123-25; Exh. 85; Tr. 1129-36; Tr. 843-44, 848-50). In fact it never did give any more trouble and even the trial judge conceded that this crack was fully repaired. Finding V.

An instance occurred at this time which demonstrates the due diligence of petitioner. Mr. Vallet, while examining the deck from below, noticed on the port side, opposite the starboard side where the crack had occurred, a small streak of rust where a padeye had formerly been. This indicated to him a tiny crack not more than two or three inches. Since the large deck crack had apparently started from a similar padeye, Mr. Vallet had this little rust place cut out and a circular plate inserted in the deck—circular to avoid any notch (Exh. 12 and 12A; Tr. 164-67). He was not required to do this. The Coast Guard did not demand it. He did it in conformity with the standard practice of petitioner to maintain its ships in the highest degree of efficiency and safety.

The vessel made Voyage 5 and went on drydock at Todds December 20th and 21st, 1951. There the hull was sandblasted to remove all old paint and any marine growth and then was thoroughly inspected by the Coast Guard, the American Bureau and the petitioner's personnel. The inspectors were Commander Hamilton and Commander Brown of the Coast Guard, Mr. Wilson of the American Bureau, Mr. Brennecke, Port Engineer of the petitioner, Mr. Matthews and Mr. Reid, Chief En-

gineers. All these men found the ship in good order. (Exh. 15; Exh. 54; Tr. 670-76; 723-35; Exh. 57; Tr. 749-764; Tr. 331-35; 1715-23; 347-49; 377-78). This was only fifteen days before her fatal voyage.

When a ship is thoroughly inspected and declared seaworthy in all respects by the American Bureau and the Coast Guard, the official guardians of safety at sea, and when their inspectors are accompanied by the petitioner's own personnel, competent man, and all find the ship seaworthy, it is difficult to imagine what more a shipowner could do.

Relevant to the high regard paid to such a classification society as the American Bureau of Shipping, the American equivalent of Lloyds, the following statement in Scrutton on Charterparties, 16th Edition, at page 474, commenting on the obligation to exercise due diligence to make the ship seaworthy is worth noting:

"Where a fault in design has been approved in error by a classification society such as Lloyd's, the view has been expressed that the owner would escape liability either on the ground of the public and quasi-judicial position of such societies or because to go behind the certificate of such a society might lead to an almost unlimited retrogression."

AUTHORITIES

"Of course the duty to exercise due diligence cannot be delegated, nor is there any attempt to do that here, but it is difficult to understand how the ship, or her owner could have been more diligent. It would be difficult to suggest more competent persons to make such inspections than the surveyors of the American Bureau of Shipping, the United State Government Inspectors of the Department of Commerce, the Port Engineer and Marine Superin-

tendent of the claimant, and the officers of the ship itself, . . ." *The Zarembo*, 44 F. Supp. 915, at p. 919 (E.D.N.Y. 1942), affirmed 136 F. (2d) 320; cert. den. 320 U.S. 804.

" . . . If competent men considered the vessel seaworthy, after an inspection, with full knowledge of repairs made, it indicated that due diligence had been used in preparation for the expectable tests and strains of her voyage, and the vessel owner was justified in believing her fit for the voyage. Any damages to the vessel later must be regarded, particularly in heavy seas, as resulting without fault on the part of the owner.

.

"All the work of reconditioning the ship was done at a responsible shipyard under the advice of a competent naval officer (architect). This was due diligence." (Citing authorities.) *The Floridian*, 1936 A.M.C. 1006, at pp. 1009-10, 83 F. (2d) 949, 951 (CCA 2d, 1936); cert. den. 299 U.S. 577.

" . . . After the repairs had been made, the vessel was inspected and passed by the American Bureau; and on February 28, 1931, she started for Porto Rico, arriving at San Juan on March 10, 1931. Before leaving San Juan on March 18, 1931, on the return voyage, the No. 4 hatch was again inspected and no evidence of any structural weakness was found at that point. I do not know what more than this could fairly be asked to satisfy the requirements of due diligence." *The Emilia*, 1936 A.M.C. 22, at pp. 22-24, 13 F. Supp. 7, at pp. 8-9 (S.D.N.Y. 1935).

"Due diligence is that diligence which a competent vessel owner would or should exercise under the circumstances. *The Bill*, D.C., 47 F. Supp. 969. *The S.S. Troubador* was reconditioned in 1941-1942 and received a seaworthy certificate from the American Bureau of Shipping in December, 1942. New boilers were installed by a reputable marine boiler maker. In December, 1942, the vessel was drydocked

and extensive voyage repairs were made in Philadelphia. Voyage repairs were made at New York and Norfolk just prior to the voyage to Santos. At Santos voyage repairs were made and the classification surveyor surveyed her holds and declared her to be seaworthy and 'fit to carry dry and perishable cargo'. I think respondent has shown it did exercise due diligence to make the vessel seaworthy." *General Foods Corporation v. The Troubador*, 98 F. Supp. 207, 210.

Besides the foregoing official inspections, it was standard practice on petitioner's ships for Mr. Vallet, Mr. Brennecke or some other representative of Mr. Vallet, to meet each vessel on its return, go over, with the officers, the ship's performance on the voyage, discuss any voyage repairs needed and have them made (Tr. 230-31). This was done on the PENNSYLVANIA. Chief Engineer Matthews submitted a list of voyage repairs on the return of Voyage 5 (Exh. 14). They were minor. A few small "betterments" were eliminated from the list as unnecessary. The rest were carried out (Tr. 173-75, 334).

The petitioner rightly relied on its ship's officers, all competent men, to maintain the ship in a constant state of seaworthiness and to report any deficiencies noticed on a voyage and needing attention (Tr. 172-73, 188, 230-31, 270). Chief Engineer Matthews illustrated this when he testified that every time a hold was empty on a return voyage, he and his first assistant and the mate, and sometimes another mate, would go down into the hold and inspect it thoroughly for cracks, excessive rust, hatch boards broken, or anything, and make a report on it, and that he made such an inspection of the ship

on Voyage 5 on the way back, and found nothing wrong at all (Tr. 379-80).

We remarked earlier that the petitioner, in the care of its vessels, exceeded the Coast Guard and American Bureau requirements. For example, when the petitioner bought the ship it made improvements in her at considerable expense. It cut freeing ports in the forward bulwarks to release water from the decks more readily. It installed a water-tight door where none was before, and made doors watertight not so before (Exh. 6; Tr. 150-52, 328-31). It provided three good tarpaulins for every hatch (Exh. 55), whereas only two are required (Tr. 703). It equipped the ship with radar (Exh. 6), which is not required. Mr. Vallet's cutting out the little rust streak in the port side of the deck, already referred to, was merely done out of abundant caution. It was not required, but he did it.

Let us now consider the steering gear. It was thoroughly tested at the Annual Inspection in August and found good. See Commander Hamilton's inspection book (Exh. 53), and testimony (Tr. 657-62), and Lt. Rojeski's inspection book (Exh. 55), and testimony (Tr. 708-09). It functioned perfectly up until the last hours of the wreck, and in the final hour was working again. It was inspected by Chief Engineer Matthews every day (Tr. 350-51). And the log books of the ship show at least sixty-five operating tests (Exhs. 40-44). In fact, it is standard practice to test the steering gear every time before a ship leaves her berth. What went wrong with the steering gear, of course, we do not know. Whatever it was, can be attributed to the storm. Certainly all the

evidence shows that the petitioner used due diligence to make it seaworthy. The Trial Court himself evidently considered the defect, whatever it was, to be "latent", and not "apparent", and that those charged with the inspection of the ship "used the care of reasonable and prudent persons". (Opinion). This was certainly a finding of due diligence.

We do not think it necessary to discuss the hatches or the label cargo crib further, except to say this in regard to the crib. The very fact that Captain Plover, Master of the ship, having in mind the previous trouble with label cargo stowed aft, gave thought, care and attention to a better place to stow it, and chose the forward location because "This ship is very good by No. 2 hatch" (Tr. 2716) shows due diligence. That is not the act of a careless man. It is the act of a competent, careful, prudent man, considering all the factors. And that is due diligence. If the crib was damaged by the seas, that does not militate against the Captain's due care.

"Due diligence is that diligence which a competent vessel owner would or should exercise under the circumstances." The Troubador, *supra*.

This the petitioner did.

CONCLUSION

These are the contentions of the petitioner:

That the storm encountered by the PENNSYLVANIA was clearly a peril of the sea and was the cause of the ship's sinking;

That the petitioner having proved a peril of the sea, the burden shifted to the cargo claimants to show un-

seaworthiness as the cause of the loss, and particularly what that unseaworthiness was. This they have failed to do.

On the contrary, the petitioner, though not having the burden, has proved seaworthiness.

But if, contrary to these contentions, the Court feels that the cargo claimants have sustained the burden of proving unseaworthiness, then, whether the defects be latent or not, nevertheless the petitioner still escapes liability if it proves due diligence, and this petitioner has clearly done.

The trial court's findings and conclusions, contrary to the above contentions, are "clearly erroneous" under the doctrine of *McAllister v. U. S.*, 348 U.S. 19, 99 L. Ed. 20, recently followed by this Court in *Permante Silverbow-Colorado*, 1956 A.M.C. 695, and we believe this Court will reach "the definite and firm conviction that a mistake has been made" and will correct it. In fact the findings themselves, on the storm and unseaworthiness, partake rather of the nature of conclusions.

We therefore ask this Court to reverse the present interlocutory decree and enter a decree granting complete exoneration (Specifications of Error IV and V).

A final word. It has three times been declared by Congress to be the purpose and policy of the United States, as necessary for the national defense and for the proper growth of its commerce, to have a merchant marine owned and operated privately by citizens of the United States, and it is declared to be the policy of the United States to foster the development and encourage

the maintenance of such a merchant marine. (Merchant Marine Act, 1920; 46 USC § 861; Merchant Marine Act, 1928; 46 USC § 891; Merchant Marine Act, 1936; 46 USC § 1101.) In furtherance of that policy, Congress has replaced the old Harter Act with the more equitable Carriage of Goods by Sea Act, 1936, (COGSA), requiring that the shipowner shall be liable for unseaworthiness only if the shipowner failed in due diligence to make the ship seaworthy in that respect which caused the loss.

We suggest to the Court that, just as Mr. Justice Holmes warned against too easy a finding of privity in a limitation case, as defeating the purpose of the statute, so too easy a finding of unseaworthiness or too easy a finding of lack of due diligence by the courts tends to defeat this public policy as declared by Congress.

Seaworthiness is only reasonable fitness for the voyage and due diligence is only reasonable care.

On these issues, the cargo claimants are asking this Court to second-guess the many competent men whose job and responsibility it was to pass upon them, including the officers of the ship whose lives depended on them.

Respectfully submitted,

WOOD, MATTHIESSEN, WOOD & TATUM,
 ERSKINE WOOD,
 1310 Yeon Building,
 Portland, Oregon;

BOGLE, BOGLE & GATES,
 STANLEY B. LONG,
 Central Building,
 Seattle, Washington,

Proctors for Petitioner-Appellant.

APPENDIX

Judge Ling's Opinion—Tr. 71

[Title of District Court and Cause.]

MEMORANDUM OPOINION

This case was brought to trial after ample and exhaustive preparation. The issues are simple and I do not believe a review of the evidence would serve any useful purpose. I shall, therefore, merely state my conclusions without attempting to find support for them by reference to the record.

First to be determined is whether the Pennsylvania storm was of such magnitude as to constitute a peril of the sea. I do not think it could be so considered. It is apparent from the evidence that the weather encountered, if not actually anticipated, certainly was of a kind reasonably to have been expected in January on trans-Pacific voyages over the Great Circle route. There appeared to be nothing catastrophic about the storm. Other vessels withstood the wind and the seas, which leads to the inescapable conclusion that the Pennsylvania was not seaworthy, or it too would have survived.

Just what latent defects in hull or equipment were responsible for the disaster cannot be determined with certainty, although it can be gathered by radiograms sent from the vessel that several contributing factors could have been responsible.

The court having found the vessel to have been unseaworthy the next question is whether under the facts

and circumstances petitioner should be denied the right of exemption from liability under the statute, by having imputed knowledge that the vessel was not seaworthy, thereby making it privy to the existence of such conditions.

Upon examination of the record I find that any defects in the vessel which caused her to sink were not apparent. Those charged with her inspection used the care of reasonable and prudent persons and the unseaworthiness of the vessel was without privity or knowledge of the owner of the vessel.

My conclusions are that the Pennsylvania must be held to have been unseaworthy, but her unseaworthiness and her fault are held to have been without the privity or knowledge of her owner, and the petitioner is entitled to limit the liability of the vessel to the pending freight. The motion to dismiss the petition is Denied.

Dated: Phoenix, Arizona, November 17, 1955.

/s/ Dave W. Ling,
Judge

[Endorsed]: Filed November 21, 1955.

Findings and Conclusions—Tr. 72-78

FINDINGS OF FACT AND CONCLUSIONS OF LAW

[Title of District Court and Cause.]

The above-entitled cause coming on for trial commencing on the 13th day of July, 1954, upon the peti-

tion of States Steamship Company, under the provisions of Sections 183 et seq. of Title 46, United States Code, for exoneration from or limitation of liability from all claims arising out of the sinking of the SS Pennsylvania, formerly the Luxembourg Victory on January 9, 1952, with the total loss of the vessel, all of her crew and personnel aboard and all of her cargo, and it appearing to the court that prior to the time of trial default had been duly entered of all persons having claims arising out of said disaster except those who had filed claims herein, and it further appearing that all claims for death of the crew and personnel aboard on file here had been settled out of court, the trial proceeded upon the sole remaining issues presented by the petition and the claims for loss of cargo, the petitioner being represented by is proctors, Erskine Wood, Esq., Stanley B. Long, Esq., Lofton L. Tatum, Esq., and C. Calvert Knutsen, Esq., the cargo claimants, Atlantic Mutual Insurance Company and Pacific National Fire Insurance Company, being represented by John Gordon Gearin, Esq., and George B. Campbell, Esq., the cargo claimant, United States of America, being represented by Keith R. Ferguson, Esq., Special Assistant to the Attorney General, and Paul D. Hanlon, Esq., formerly Attorney, Department of Justice, and the claimant, The Dominion of Canada, being represented by Charles Howard, Esq., and evidence both oral and documentary having been introduced, and the petition and all claims in this cause remaining for decision being submitted, the Court now, after due deliberation thereon and consideration of extensive arguments and briefs of counsel, makes the following Findings of Fact and Conclusions of Law:

Findings of Fact

I.

That petitioner, States Steamship Company, in February 1951, purchased from the United States of America the SS Pennsylvania, formerly the Luxembourg Victory, a Victory-type vessel, Official Number 245,327, built for the Government by the Oregon shipyard and completed on April 5, 1944, with dimensions of 455 feet, 3-11/32 inches in length, with beam of 62.1 feet, and gross tonnage of 7,608 tons.

II.

That on January 5, 1952, the petitioner, as the owner and operator of the S.S. Pennsylvania, sailed said vessel (designated as Voyage VI), from the Port of Seattle for the Port of Yokohama via the Great Circle Route, as a common carrier for hire, having on board the cargo of the claimants which the vessel had received in good order and condition, and that during the course of said voyage the SS Pennsylvania sank during a storm in the Gulf of Alaska at a position of approximately 505 miles WNW of Seattle, Washington, and 535 miles SE of Kodiak, Alaska, with a total loss of the vessel, all of her crew and personnel and the total loss of all her cargo, including the cargo of the claimants.

III.

The storm, which had been designated as the Pennsylvania storm, in which the vessel sank was not of such magnitude as to constitute a peril of the sea, the weather encountered, if not actually anticipated, certainly was of a kind reasonably to have been expected in January on

trans-Pacific voyages over the Great Circle route, and there was nothing catastrophic about the storm as all other vessels in the area withstood the wind and the seas, the sole and proximate cause of the sinking of the Pennsylvania being her own unseaworthiness.

IV.

The contributory factors responsible for the sinking of the S.S. Pennsylvania are found in the radiograms sent from the vessel immediately prior to her sinking, stating that the vessel sustained a crack down the port side between frames 93 and 94; that the crack started in the sheer strake and ran down about 14 feet; that sea water entered the engine room of the vessel through this crack; that the vessel sustained a failure or breakdown of its steering systems and for a time the vessel was completely unable to steer by any method in heavy seas then existing and that if they could not fix the steering gear that they would need immediate assistance; that the vessel was taking water in the No. 1 hold; that the deck cargo on the forward deck came adrift and was taking off the tarpaulins on the forward hatches, and that the No. 2 hatch was open and full of water.

V.

That the foregoing faults, failures, breakdowns and defects set forth in the preceding finding IV, together with the crack sensitiveness of the vessel to extreme cold weather by reason of a former 22-foot crack in her deck occurring on her previous Voyage V, which crack was fully repaired, were factors of unseaworthiness culminating from the unseaworthy condition of the vessel at

the inception of her voyage which prevented her from meeting the expected and to be anticipated weather conditions and proximately caused her sinking, with the total loss of the vessel, with all of her crew and personnel aboard and all of her cargo.

VI.

That the evidence is insufficient to show that petitioner used the due diligence required by law to make the vessel seaworthy at the inception of her voyage, and the Court finds that the petitioner did not use the due diligence required by law to make the vessel seaworthy and to entitle it to exoneration from liability.

VII.

That the evidence is sufficient to show that the unseaworthy condition of the vessel at the inception of her voyage was without the privity or knowledge of petitioner, and the Court finds that the unseaworthy condition of the vessel at the inception of her voyage was not with the privity and knowledge of the petitioner.

Conclusions of Law

I.

The Court has jurisdiction of the petition and the claims of cargo interests under Rules 51 to 55 of the United States Supreme Court Admiralty Rules.

II.

That the petitioner has failed to prove due diligence to make the S.S. Pennsylvania seaworthy at the inception of the voyage upon which she sank by reason of

her unseaworthiness and is not entitled to exoneration from liability to the cargo claimants.

III.

That the petitioner has proved that the unseaworthiness of the SS Pennsylvania at the inception of her voyage was without the knowledge or privity of the petitioner and is entitled to limit its liability to the value of the freight pending, which amount is set forth in the order of this Court, dated May 26, 1954.

IV.

That the cargo interests are entitled to judgment against the petitioner for the amount of the pending freight in ratio to the amount of their respective claims, with interest at 6% together with their costs.

Let an interlocutory decree enter accordingly and if the parties cannot agree between themselves as to the damages and segregation thereof, the matter shall be referred to a commissioner to be appointed by the Court who shall ascertain the amount thereof and make report to the court in accord with the agreement of the parties made at the commencement of the trial.

Dated this 10 day of February, 1956.

/s/ Dave W. Ling,
Judge

[Endorsed]: Filed February 16, 1956.

**Pertinent Parts of Carriage of Goods By Sea Act,
1936, 46 U.S.C.A. §§ 1302, and 1303(1)(a)(b)(c) and
1304(1) and (2)(a)(c)(d)(p) and (q)**

§ 1302. DUTIES AND RIGHTS OF CARRIER

Subject to the provisions of section 1306 of this title, under every contract of carriage of goods by sea, the carrier in relation to the loading, handling, stowage, carriage, custody, care, and discharge of such goods, shall be subject to the responsibilities and liabilities and entitled to the rights and immunities set forth in sections 1304 and 1305 of this title. Apr. 16, 1936, c. 229, § 2, 49 Stat. 1208.

§ 1303. RESPONSIBILITIES AND LIABILITIES OF CARRIER AND
SHIP—SEAWORTHINESS

(1) The carrier shall be bound, before and at the beginning of the voyage, to exercise due diligence to—

(a) Make the ship seaworthy;

(b) Properly man, equip, and supply the ship;

(c) Make the holds, refrigerating and cooling chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage, and preservation.

§ 1304. RIGHTS AND IMMUNITIES OF CARRIER AND SHIP—
UNSEAWORTHINESS

(1) Neither the carrier nor the ship shall be liable for loss or damage arising or resulting from unseaworthiness unless caused by want of due diligence on the part of the carrier to make the ship seaworthy, and to secure

that the ship is properly manned, equipped, and supplied, and to make the holds, refrigerating and cool chambers, and all other parts of the ship in which goods are carried fit and safe for their reception, carriage, and preservation in accordance with the provisions of paragraph (1) of section 1303 of this title. Whenever loss or damage has resulted from unseaworthiness, the burden of proving the exercise of due diligence shall be on the carrier or other persons claiming exemption under this section.

UNCONTROLLABLE CAUSES OF LOSS

(2) Neither the carrier nor the ship shall be responsible for loss or damage arising or resulting from—

(a) Act, neglect, or default of the master, mariner, pilot, or the servants of the carrier in the navigation or in the management of the ship;

(c) Perils, dangers, and accidents of the sea or other navigable waters;

(d) Act of God;

(p) Latent defects not discoverable by due diligence;
and

(q) Any other cause arising without the actual fault and privity of the carrier and without the fault or neglect of the agents or servants of the carrier, but the burden of proof shall be on the person claiming the benefit of this exception to show that neither the actual fault or privity of the carrier nor the fault or neglect of the agents or servants of the carrier contributed to the loss or damage.

**The Canadian Act, 1956 AMC, Pages 1250-1258
Sections 2, 3, and Rules, Article II, Article III,
Section 1, (a)(b)(c) and Article IV, Section
1, and Section 2 (a)(c)(d)(p) and (q)**

2. Subject to the provisions of this Act, the Rules relating to bills of lading as contained in the Schedule to this Act (hereinafter referred to as "the Rules") shall have effect in relation to and in connection with the carriage of goods by water in ships carrying goods from any port in Canada to any other port whether in or outside Canada.

3. There shall not be implied in any contract for the carriage of goods by water to which the Rules apply any absolute undertaking by the carrier of the goods to provide a seaworthy ship.

RULES

ARTICLE II.

RISKS.

Subject to the provisions of Article VI, under every contract of carriage of goods by water the carrier, in relation to the loading, handling, stowage, carriage, custody, care, and discharge of such goods, shall be subject to the responsibilities and liabilities and entitled to the rights and immunities hereinafter set forth.

ARTICLE III.

RESPONSIBILITIES AND LIABILITIES.

1. The carrier shall be bound, before and at the beginning of the voyage, to exercise due diligence to,
(a) make the ship seaworthy;

- (b) properly man, equip, and supply the ship;
- (c) make the holds, refrigerating and cool chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage and preservation.

ARTICLE IV.

RIGHTS AND IMMUNITIES

1. Neither the carrier nor the ship shall be liable for loss or damage arising or resulting from unseaworthiness unless caused by want of due diligence on the part of the carrier to make the ship seaworthy, and to secure that the ship is properly manned, equipped and supplied, and to make the holds, refrigerating and cool chambers and all other parts of the ship in which goods are carried fit and safe for their reception, carriage and preservation in accordance with the provisions of paragraph 1 of Article III.

Whenever loss or damage has resulted from unseaworthiness, the burden of proving the exercise of due diligence shall be on the carrier or other person claiming exemption under this section.

2. Neither the carrier nor the ship shall be responsible for loss or damage arising or resulting from,

- (a) act, neglect, or default of the master, mariner, pilot or the servants of the carrier in the navigation or in the management of the ship;
- (c) perils, danger, and accidents of the sea or other navigable waters;
- (d) act of God;
- (p) latent defects not discoverable by due diligence;

- (q) any other cause arising without the actual fault and privity of the carrier, or without the fault or neglect of the agents or servants of the carrier, but the burden of proof shall be on the person claiming the benefit of this exception to show that neither the actual fault or privity of the carrier nor the fault or neglect of the agents or servants of the carrier contributed to the loss or damage.

List of Exhibits with reference to pages of the Record

Exhibits	Page	Exhibits	Page	Exhibits	Page
1	143	37	498	73	922
2	147	38	498	74	929
3	148	39	498	75	936
4	149	40	1098	76	940
5	149	41	1098	77	966
6	153	42	1098	78	1009
7	155	43	1098	79	1012
8	157	44	1098	80	
9	158	45	589	81	1845
10	163	46	589	81-A	2136
11	164	47	515	82	1063
12	169	48	Rejected	83	1094
12-A	169	49	572	84	1123
13	172	50	591	85	1130
14	173	51	603	86	1148
15	175	52	614	87	1200
16	175	53	657	88	1200
17	208	54	676	89	1251
18	208	55	700	90	1486
19	208	56	730	91	1255
20	208	57	764	92	1258
21	208	58	780	93-A	1260
22, 23	246	59	791	93-B	1260
24	257	60	852	94-1	1265
25	291	61	854	to	
26		62	865	94-14	1265
27	358	63	872	95-1	1266
28	394	64	873	to	
29	394	65	874	95-7	1266
30	399	66	896	96	1267
31	399	67	887	97	1269
32	400	68		98	1280
33	417	69	895	99	1285
34	463	70		100	1323
35	466	71		101	1319
36	497	72		102	1323

Exhibits	Page	Exhibits	Page	Exhibits	Page
103	1325	138-A	1853	164	
104	1327	138-B	1853	165-1	
105	1330	138-C	1853	to	
106	1334	139	1856	165-14	
107	1336	140	1900	166	
108	1412	141	1908	167	218
109	1420	142	1908	168	
110	1437	143	1909	169-A	225
111	1458	144		169-B	225
112	1483	145	1934	170	225
113	1483	146		171	225
114	1483	147	2075	172	225
115	1483	148	2136	172	225
116	1483	149-1	2123	173	226
117	1483	149-2	2123	174	226
118	1483	149-3	2123	175	226
119	1483	149-4	2123	176	
120	1483	149-5	2123	177	229
121		150	2128	178	231
122-1	1549	151	2128	179	232
to		152 Rejected		179-A	232
122-16	1549	153 Rejected		179-B	232
123		154-A	2164	180	238
124	1557	154-B	2164	181	242
125	1619	154-C	2164	182	242
126		155	2170	183	242
127	1706	156	2175	184	245
128	1709	157-1		185	263
129	1712	to		186	263
130	1754	157-11		187	268
131	1754	158-1		188	
132-A	1756	to		189	281
132-B	1756	158-5		190	282
133	1756	159		190	293
134	1757	160		191	283
135	1757	161		192	283
136	1854	162		193	284
137	1850	163			